Final
Final Status Survey Report
EPA National Enforcement Investigations Center
Denver Federal Center
Lakewood, Colorado

Volume 2 of 3
Appendix F

Contract No. DACA45-96-D-0007
Task Order No. 0043

In Support of:

EPA National Enforcement Investigations Center
Environmental Due Diligence Process
Denver Federal Center
Lakewood, Colorado

Prepared For:

US Army Corps of Engineers
Omaha District

106 S. 15th Street
Omaha, Nebraska 68102-1618

June 2004

APPENDIX F

DATA

APPENDIX F

Table of Contents

Survey Units

- Laboratory A1209
- Laboratory A1505/1507
- Laboratory A1902
- Laboratory B2109
- Laboratory D2205

Equipment and Material Release Surveys

Reference Material Background Data

Note:

Appendix F is organized as follows:

Survey units required judgmental beta and alpha scanning, systematic direct alpha and beta radiation measurements, and systematic wipe samples analyzed for removable alpha and beta radiation. These sections will present a summary table of detailed survey and analytical results followed by the alpha and beta scan survey forms, direct alpha and beta measurement survey forms, the alpha and beta wipe sample survey/collection forms, and the wipe sample data package(s) respectively.

Equipment and material release surveys required judgmental direct measurement of alpha and beta radiation as well as the collection of wipe samples for removable alpha and bet radiation from associated locations.

Reference material background data contains the survey data forms used for the determination of material specific backgrounds.

Laboratory A1209

Final Status Data Summary Ta. . Alpha and Beta Scan Data
Survey Unit: Laboratory A1209
Building 53, Denver Federal Center

Laboratory ID		Action Criteria	Individual Measurements													
Beta Scan																
A1209	Bkg. Value	$MDCR_{Surveyor}$														
Concrete floor	357.5	500.0	341.0	298.0	337.0	351.0	326.0	426.0	366.0	388.0	353.0	402.0	375.0	400.0	No. of meas./locs	12
															Maximum	426.0
															Mean	363.6
															Standard Deviation	36.47
															No. > $MDCR_{Surveyor}$	0
Alpha Scan																
A1209		Bkg. Value														
Concrete floor		3.5	4.0	3.0	1.0	5.0	3.0	3.0	2.0	3.0	2.0	2.0	4.0	1.0	No. of meas./locs	12
															Maximum	5.0
															Mean	2.8
															Standard Deviation	1.22
															No. > Scan MDC	0

Notes:
Bold values exceed respective criteria.
Kcpm - Thousand counts per minute.
Bkg. - Background.
MDC - Minimum detectable concentration

Final Status Data Summary Table: Direct Beta Measurements
Survey Unit: Laboratory A1209
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements														
Systematic Direct Read Locations																	
A1209																No. of meas./locs	36
Wall	1,000 dpm/100cm^2	1,000 dpm/100cm^2	394	381	-169	-15	-181	234	-247	-61	-34	143	-126	204		Maximum	394.0
Wall	1,000 dpm/100cm^2	1,000 dpm/100cm^2	113	43	-137	89	-440	-549	281	320	379	363	381			Mean	-458.0
Floor	1,000 dpm/100cm^2	1,000 dpm/100cm^2	-1356	-1610	-1734	-1595	-1625	-1585	-1612	-1398	-1446	-1436	-1540			Standard Deviation	793.5
Floor	1,000 dpm/100cm^2	1,000 dpm/100cm^2	-1646	-1350												No. > Administrative Goal	0
																No. > Release Criteria	0
Bias Direct Read Locations																	
A1209																No. of meas./locs	10
Wall	1,000 dpm/100cm^2	1,000 dpm/100cm^2	96	-19	25											Maximum	96.0
Floor	1,000 dpm/100cm^2	1,000 dpm/100cm^2	-460	-228	-313	-259	-1198	-1180	-1529							Mean	-506.5
Counter Top	1,000 dpm/100cm^2	1,000 dpm/100cm^2														Standard Deviation	581.1
Other	1,000 dpm/100cm^2	1,000 dpm/100cm^2														No. > Administrative Goal	0
																No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*1st*	*2nd*	*RPD*
A1209			
Location C-2	381	311	20
Location C-22	363	360	1
Location BS-1209-01	-460	-486	-5

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.

Final Status Data Summary Table - Direct Alpha Measurements
Survey Unit: Laboratory A1209
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements													
Systematic Direct Read Locations																
A1209															No. of meas./locs	36
Wall	30[a] dpm/100cm^2	100 dpm/100cm^2	-34	-33	-48	-48	-50	-40	-40	-39	-37	-43	-39	-47	Maximum	-4.0
Wall	30[a] dpm/100cm^2	100 dpm/100cm^2	-36	-39	-54	-43	-9	-13	-20	-7	-8	-4	-15		Mean	-36.3
Floor	30[a] dpm/100cm^2	100 dpm/100cm^2	-41	-44	-41	-44	-52	-42	-44	-50	-45	-44	-42		Standard Deviation	14.2
Floor	30[a] dpm/100cm^2	100 dpm/100cm^2	-41	-35											No. > Administrative Goal	0
															No. > Release Criteria	0
Bias Direct Read Locations																
A1209															No. of meas./locs	10
Wall	30[a] dpm/100cm^2	100 dpm/100cm^2	-59	-48	-34										Maximum	-34.0
Floor	30[a] dpm/100cm^2	100 dpm/100cm^2	-55	-60	-72	-70	-37	-48	-41						Mean	-52.4
Counter Top	30[a] dpm/100cm^2	100 dpm/100cm^2													Standard Deviation	13.1
Other	30[a] dpm/100cm^2	100 dpm/100cm^2													No. > Administrative Goal	0
															No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*1st*	*2nd*	*RPD*
A1209			
Location C-2	-34	-36	-6
Location C-22	-4	-6	-40
Location BS-1209-01	-55	-55	0

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.
[a] - Approximate sensitivity of field instrument

Final Status Data Summary Table: Beta Wipe Sample Results
Survey Unit: Laboratory A1209
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements		
Systematic Direct Read Locations					
A1209				No. of meas./locs	36
Wall	200 dpm/100cm^2	200 dpm/100cm^2	All sample results were reported as non-detected at < 1.7 dpm/100cm^2	Maximum	na
Wall	200 dpm/100cm^2	200 dpm/100cm^2		Mean	na
Floor	200 dpm/100cm^2	200 dpm/100cm^2		Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0
Bias Direct Read Locations					
A1209				No. of meas./locs	10
Wall	200 dpm/100cm^2	200 dpm/100cm^2	All sample results were reported as non-detected at < 1.7 dpm/100cm^2	Maximum	na
Floor	200 dpm/100cm^2	200 dpm/100cm^2		Mean	na
				Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*Regular*	*Field Duplicate*	*Field Splits*	*RPD*
A1209				
Location C-20	nd	nd	nd	nc
Location C-36	nd	nd	nd	nc
Location BS-1209-09	nd	nd	nd	nc

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.
nd - non-detected
nc - not calculated

Final Status Data Summary Table: Alpha Wipe Sample Results
Survey Unit: Laboratory A1209
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements		
Systematic Direct Read Locations					
A1209				No. of meas./locs	36
Wall	1.1 dpm/100cm^2	20 dpm/100cm^2	All sample results were reported as non-detected at < 0.90 dpm/100cm^2	Maximum	na
Wall	1.1 dpm/100cm^2	20 dpm/100cm^2		Mean	na
Floor	1.1 dpm/100cm^2	20 dpm/100cm^2		Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0
Bias Direct Read Locations					
A1209				No. of meas./locs	10
Wall	1.1 dpm/100cm^2	20 dpm/100cm^2	All sample results were reported as non-detected at < 0.90 dpm/100cm^2	Maximum	na
Floor	1.1 dpm/100cm^2	20 dpm/100cm^2		Mean	na
				Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*Regular*	*Field Duplicate*	*Field Splits*	*RPD*
A1209				
Location C-20	nd	nd	nd	nc
Location C-36	nd	nd	nd	nc
Location BS-1209-09	nd	nd	nd	nc

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.
nd - non-detected
nc - not calculated

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT	PROJECT NUMBER: 101115	DATE: 030104	TIME START: 1100	TIME COMPLETE: 1125	PAGE 1 OF 10
LOCATION: EPA NEIC Rm A 1209	SURVEYOR(S): Stephens / Trout				
Denver Federal Center, CO	SURVEY NUMBER: 030104-27				
Denver, CO	MAP ID: LAB A1209				

ACCEPTABLE SURFACE CONTAMINATION LEVELS
Loose 20 dpm/100cm² Alpha 200 dpm/100cm² Beta-Gamma
Total 100 dpm/100cm² Alpha 1,000 dpm/100cm² Beta-Gamma

ACCEPTABLE SCAN LIMITS
$MDCR_{surveyor}$ Beta
$MDCR_{surveyor}$ Alpha

Source Check Data	Contamination Surveys				Radiation Surveys
	α (TOTAL)	α (TOTAL)	β-γ (TOTAL)	β-γ (TOTAL)	Beta-Gamma
Instrument	184904 / 185768	185774	184904 / 185768	185774	NA
Source Type and I.D.	Th-230, 1170/89	Th-230, 1170/89	Cs-137, 92CS5000	Cs-137, 92CS5000	
Source Strength in dpm	13800	13800	789565	789565	Ck
Efficiency	0.13 / 0.15	0.15	0.16 / 0.17	0.18	
MDC in dpm/100 cm²	See attached Instrument sheets for material specific backgrounds and MDC's.				Sat. ☐ Unsat. ☐
Background in cpm					mrem/hr or μrem/hr

REASON FOR SURVEY
☒ PROCEDURE NO. FINAL STATUS SURVEY PLAN
☐ SPECIAL
☐ ROUTINE

Contamination ☒ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐
Radiation ☐ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐

COMMENTS:

1-5 # 185768 6-10 # 185774

SADS – See Attached Data Sheet

Contamination Survey INSTRUMENT / SERIAL #		
	ALPHA (TOTAL) 2360 / 185774	BETA-GAMMA (TOTAL) 2360 / 185774
	ALPHA (TOTAL) 2360 / 185768	BETA-GAMMA (TOTAL) 2360 / 185768
	ALPHA (TOTAL) N/A	BETA-GAMMA (TOTAL) N/A

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☒	Item or Location
1					CF	M-9
2						K-7
3						J 8
4						I-7
5						J-3
6						Q-4
7						S-8
8						T-5
9						N-5
10						E-8
11	N					
12						
13						
14				A		
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

THE KNOWING & WILLFUL RECORDING OF FALSE, FETITIOUS, OR FRAUDULENT STATEMENTS OR ENTRES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.

RCS REVIEW: [signature] DATE 3.4.04

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION: A 1209	/ Laboratory-Room	PAGE 2 OF 10
COMMENTS:	SURVEYOR(S): Stephens / Trent	SURVEY NUMBER: 030104-27	DATE: 03-01-04
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW: [signature]	DATE: 3.4.04		

Grid Intersection ___,___

Bkgrd Check (cpm)
185768
4 / 341

Grid Intersection ___,___

Bkgrd Check (cpm)
185774
3 / 298

Contamination / R ation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1209	PAGE 3 OF 10

COMMENTS:	SURVEYOR(S): Stephens / Trent	SURVEY NUMBER: 030104-37	DATE: 03-01-04
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW:	DATE: 3.4.04		

Grid Intersection M.9

1/cpm

337 cpm

Grid Intersection K.7

5 cpm

351 cpm

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION: A 1209 / Laboratory-Room		PAGE 4 OF 10
COMMENTS:	SURVEYOR(S): Stephens / Trent	SURVEY NUMBER: 030104-27	DATE: 03-01-04
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW: [signature]	DATE: 3.4.04		

Grid Intersection J, 8

3 cpm

326 cpm

Grid Intersection I, 7

3 cpm

426 cpm

Contamination / I ation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION: A 1209 / Laboratory-Room		PAGE 5 OF 10
COMMENTS:	SURVEYOR(S): Stephens / Trent	SURVEY NUMBER: 030104-27	DATE: 03-01-04
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW:	DATE: 3-4-04		

Grid Intersection J, 3

2cpm

366cpm

Grid Intersection Q, 4

3cpm

388cpm

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1209	PAGE 6 OF 10
COMMENTS:	SURVEYOR(S): Trent / Stephens	SURVEY NUMBER: 030104-27	DATE: 030104
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW: [signature]	DATE: 3.4.04		

Grid Intersection S, 8

2 cpm

353 cpm

Grid Intersection T, 5

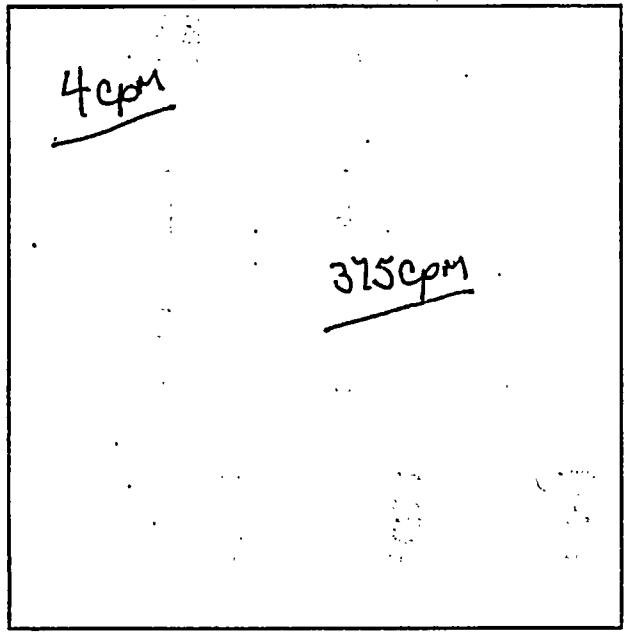
2 cpm

402 cpm

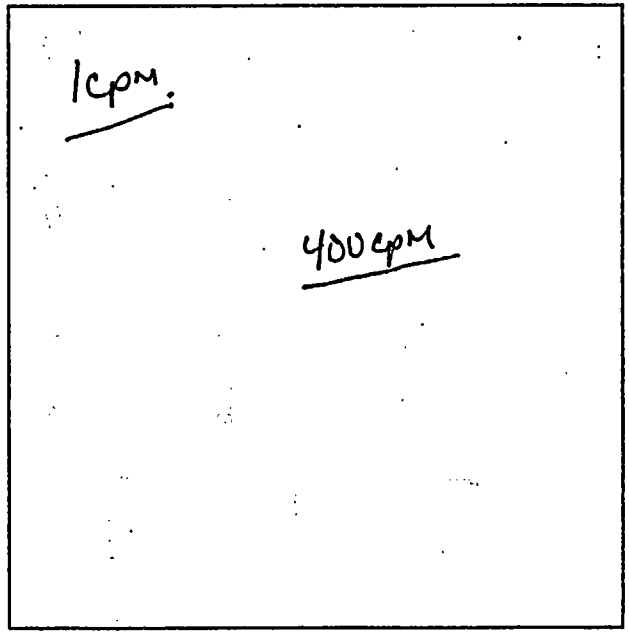
Contamination / I ation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION: Room A 1209 / Laboratory-Room		PAGE 7 OF 10
COMMENTS:	SURVEYOR(S): Stephens / Trent	SURVEY NUMBER: 030104-27	DATE: 030104
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW: [signature] DATE: 3.4.04			

Grid Intersection N, 5



Grid Intersection E, 8



MDCRsurveyor Scanning Levels for Specific Materials

23-60	185774	/	Instr. Eff.	0.18 / Setup MDC	1711

Wall Board	**(WB)**	BKGD CPM	271.18	MDCR surveyor	396	gross cpm
Floor Tile	**(FT)**	BKGD CPM	347.86	MDCR surveyor	489	gross cpm
Wood	**(wo)**	BKGD CPM	250.42	MDCR surveyor	370	gross cpm
Concrete Floor	**(CF)**	BKGD CPM	498.62	MDCR surveyor	667	gross cpm
Metal	**(ME)**	BKGD CPM	325.46	MDCR surveyor	462	gross cpm
Concrete Block	**(CB)**	BKGD CPM	530.62	MDCR surveyor	705	gross cpm
Glass	**(GL)**	BKGD CPM	370.34	MDCR surveyor	516	gross cpm
Countertop	**(CT)**	BKGD CPM	286.78	MDCR surveyor	415	gross cpm

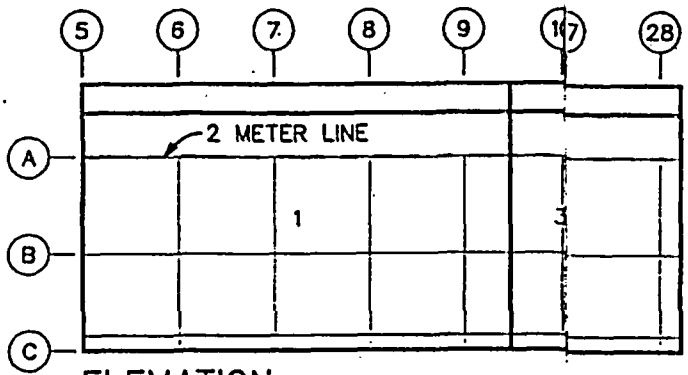
Pg 8 of 10
030.04-27
3.4.04

MDCRsurveyor Scanning Levels for Specific Materials

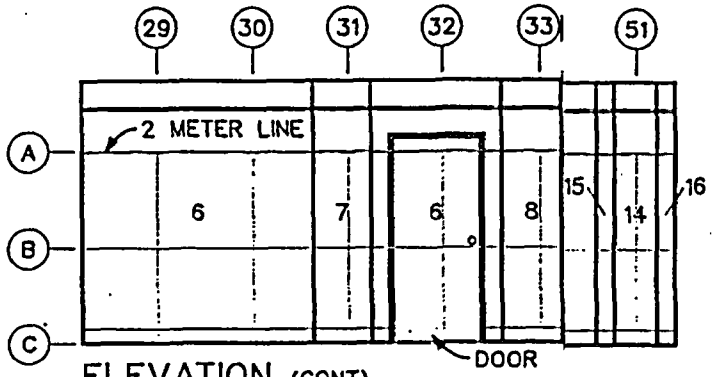
23-60 185768 / Instr. Eff. 0.17 / Setup MDC 1641

Wall Board	**(WB)**					
		BKGD CPM	230.00	MDCR surveyor	345	gross cpm
Floor tile	**(FT)**					
		BKGD CPM	275.22	MDCR surveyor	401	gross cpm
Wood	**(wo)**					
		BKGD CPM	210.12	MDCR surveyor	320	gross cpm
Concrete Floor	**(CF)**					
		BKGD CPM	357.50	MDCR surveyor	500	gross cpm
Metal	**(ME)**					
		BKGD CPM	256.10	MDCR surveyor	377	gross cpm
Concret Block	**(CB)**					
		BKGD CPM	446.00	MDCR surveyor	606	gross cpm
Glass	**(GL)**					
		BKGD CPM	304.00	MDCR surveyor	436	gross cpm
Countertop	**(CT)**					
		BKGD CPM	232.08	MDCR surveyor	347	gross cpm

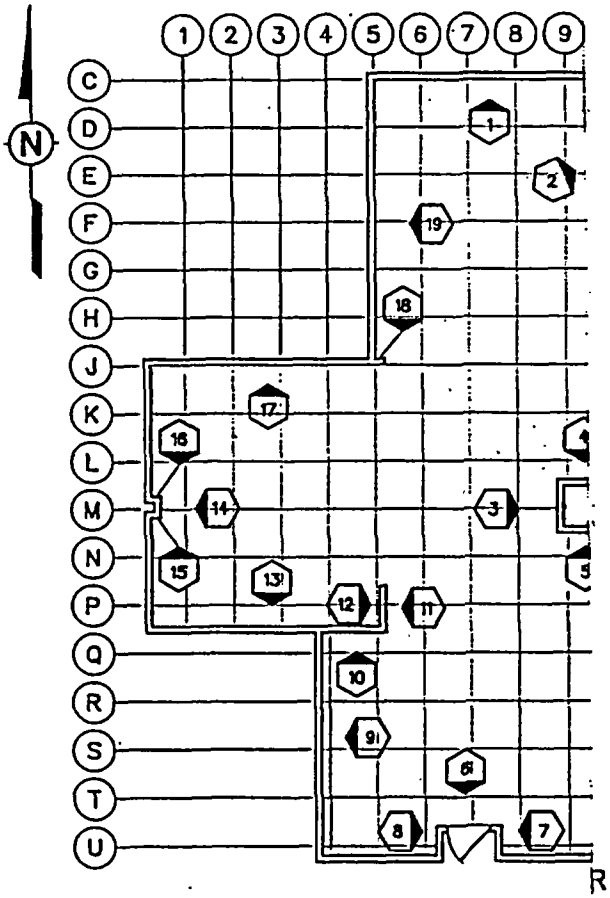
Pg 9 of
03 0104-27
3-4-14



ELEVATION
SCALE: 1" = 2.0 m



ELEVATION (CONT)
SCALE: 1" = 2.0 m



PLAN VIEW
SCALE: 1" = 4.0 m

NOTES

1. WALL SURFACE AREA: 120.4935 SQ. M.

   FLOOR SURFACE AREA: 109.2629 SQ. M.

   TOTAL SURFACE AREA: 229.7564 SQ. M.

2. WALL GRID A-1 THROUGH A-4 AND B-1 THROUGH B-4 NOT USED IN ORDER TO MATCH WALL GRID TO FLOOR GRID.

FIGURE 3-3
REFERENCE GRID FOR LABORATORY A1209

EPA NEIC
DENVER FEDERAL CENTER
LAKEWOOD, COLORADO

Shaw Environmental, Inc.

DWG. NO.: 101115_neic_0001.dgn
PROJ. NO.: 101115
TECH. REVIEW: R.COLLINS
PROJ. MGR.: R.L.ROGERS
INITIATOR: R.COLLINS
CADD REVIEW: C.BENTLEY
STARTING DATE: 25NOV03
DRAWN BY: C.E.TUMLIN

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12/2/2003
1:32:59 PM

2:0.0000 m:mm / IN.
ctumlin
101115_neic_0001.dgn

03D104-27

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT	PROJECT NUMBER: 101115	DATE: 03-01-04	TIME START: 1240	TIME COMPLETE: 1700	PAGE 1 OF 10
LOCATION: EPA NEIC	SURVEYOR(S): J. STEPHENS / T. TRENT				
Denver Federal Center, CO	SURVEY NUMBER: 030104-28				
Denver, CO	MAP ID: LAB A1209				

ACCEPTABLE SURFACE CONTAMINATION LEVELS
Loose 20 dpm/100cm² Alpha 200 dpm/100cm² Beta-Gamma
Total 100 dpm/100cm² Alpha 1,000 dpm/100cm² Beta-Gamma

ACCEPTABLE SCAN LIMITS
$MDCR_{surveyor}$ Beta
$MDCR_{surveyor}$ Alpha

Source Check Date	Contamination Surveys				Radiation Surveys
[redacted]	α (TOTAL)	α (TOTAL)	β-γ (TOTAL)	β-γ (TOTAL)	Beta-Gamma
Instrument	184904 / 185768	185774	184904 / 185768	185774	NA
Source Type and I.D.	Th-230, 1170/89	Th-230, 1170/89	Cs-137, 92CS5000	Cs-137, 92CS5000	
Source Strength in dpm	13800	13800	769565	769565	Cs
Efficiency	0.13 / 0.15	0.15	0.16 / 0.17	0.18	[redacted]
MDC in dpm/100 cm²	See attached instrument sheets for material specific backgrounds and MDC's.				Sat. ☐ Unsat. ☐
Background in cpm					mrem/hr or µrem/hr

REASON FOR SURVEY
☑ PROCEDURE NO. FINAL STATUS SURVEY PLAN - DIRECT READINGS
☐ SPECIAL
☐ ROUTINE

Contamination ☑ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐
Radiation ☐ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐

COMMENTS: Item # 1-18 - 2360 185768 19-36 - 2360 185774
37 - 2360 185768 38 - 2360 185774
39-43 - 2360 - 185768 44-48 - 2360 185774
49 - 2360 185768

SADS – See Attached Data Sheet

Contamination Survey INSTRUMENT / SERIAL #		
	ALPHA (TOTAL) 2360, 185768	BETA-GAMMA (TOTAL) 2360, 185768
	ALPHA (TOTAL) 2360, 185774	BETA-GAMMA (TOTAL) 2360, 185774
	ALPHA (TOTAL) N/A	BETA-GAMMA (TOTAL) N/A

[redacted]	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☑	Item or Location
Item #						
1	NA	-34	NA	394	WBD	C-01
2		-33		381		C-02
3		-48		-169		C-03
4		-48		-15		C-04
5		-50		-181		C-05
6		-40		234		C-06
7		-40		-247		C-07
8		-39		-61		C-08
9		-37		-34		C-09
10		-43		143		C-10
11		-39		-126		C-11
12		-47		204		C-12
13		-36		113		C-13
14		-39		43		C-14
15		-54		-137		C-15
16		-43		89		C-16
17		-9		-440		C-17
18		-13		-549		C-18
19		-20		281		C-19
20		-7		320		C-20
21		-8		379		C-21
22		-4		363 ~~368~~ 3/2/04		C-22
23		-15		381	WBD	C-23
24		-41		-1356	CF	C-24
25		-44		-1610	CF	C-25

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RCS REVIEW [signature] DATE 3-16-04

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT (CONTINUATION SHEET)

PROJECT NUMBER: 101115 | DATE: 03-01-04 | PAGE 2 OF 10

LOCATION: EPA NEIC
Denver Federal Center, Building 53
Denver, CO

SURVEYOR(S): J STEPHENS / T. TRENT
SURVEY NUMBER: 030104-28
MAP ID: LAB A1209

COMMENTS:

RCS REVIEW [signature] DATE 3.16.04

Item #	Alpha LOOSE dpm/100cm²	Alpha TOTAL dpm/100cm²	Beta-Gamma LOOSE dpm/100cm²	Beta-Gamma TOTAL dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☑	Item or Location
26	NA	-41	NA	-1734	CF	C-26
27		-44		-1595		C-27
28		-52		-1625		C-28
29		-42		-1585		C-29
30		-44		-1612		C-30
31		-50		-1398		C-31
32		-45		-1446		C-32
33		-44		-1436		C-33
34		-42		-1540		C-34
35		-41		-1646		C-35
36		-35		-1350	CF	C-36
37		-36		311	WBD	Replicate C-2
38		-6		360	WBD	Replicate C-22
39		-55	-460	~~-834~~ 3.1608	CF	BS-1209-01
40		-59		96	WBD	BS-1209-02
41		-60		-228	CF	BS-1209-03
42		-72		-313	CF	BS-1209-04
43		-70		-259	CF	BS-1209-05
44		-37		-1198	CF	BS-1209-06
45		-48		-19	WBD	BS-1209-07
46		-34		25	WBD	BS-1209-08
47		-48		-1180	CF	BS-1209-09
48		-41		-1529	CF	BS-1209-10
49		-55		-486	CF	Replicate BS-1209-01
50	NA					

Item #	Alpha LOOSE dpm/100cm²	Alpha TOTAL dpm/100cm²	Beta-Gamma LOOSE dpm/100cm²	Beta-Gamma TOTAL dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
51						
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THE KNOWING & WILLFUL RECORDING OF FALSE, FETITIOUS, OR FRAUDULENT STATEMENTS OR ENTRES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.

Contamination / R[illegible]tion Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room LAB A1209	PAGE 3 OF 10
COMMENTS:	SURVEYOR(S): J. Stephens/T. TRENT	SURVEY NUMBER: 030104-28	DATE: 03-04-04
RCS REVIEW: [signature]	DATE: 3.16.04	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.	

Background Checks (cpm)

2360 185774

Alpha	Beta	Time
3	298	0800
3	353	1630

Background Checks (cpm)

2360 185768

Alpha	Beta	Time
4	341	0800
4	317	1630

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room LAB A1209	PAGE 4 OF 10
COMMENTS:	SURVEYOR(S): T. TRENT / J. STEPHENS	SURVEY NUMBER: 030104-28	DATE: 03-01-04
RCS REVIEW: [signature] DATE: 3.16.04	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		

Replicate Count C-2

Gross Total Counts

ORIGINAL

28 / 4898

Replicate

26 / 4787

Replicate Count C-22

Gross Total Counts

ORIGINAL

28 / 5217

Replicate

27 / 5212

Contamination / R tion Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room LAB A1209	PAGE 5 OF 10
COMMENTS:	SURVEYOR(S): T. TRENT. / J. STEPHENS	SURVEY NUMBER: 030104-28	DATE: 03-01-04
RCS REVIEW: [signature]	DATE: 3.16.04	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.	

Replicate Count BS-1209-01

Gross Total Counts

ORIGINAL

44 / 4623

Replicate

44 / 4582

Pg 6 of 10

030104-28

3.16.04

Material Specific Background and MDC Sheet for Alpha Measurements

Instrument/SN: Ludlum 2360 / 185774

Probe/SN: Ludlum 43-68 / RN012713

Background count time 5 minutes

Total Instrument Effciency 0.0375 dpm/cpm

Wall Board	**WB**	2.30	cpm	**MDC**	59	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**FT**	1.96	cpm	**MDC**	55	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**WO**	2.24	cpm	**MDC**	58	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**CF**	3.54	cpm	**MDC**	72	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**ME**	1.10	cpm	**MDC**	42	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**CB**	1.72	cpm	**MDC**	51	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**GL**	3.74	cpm	**MDC**	74	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**CT**	2.30	cpm	**MDC**	59	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	5.04	cpm	**MDC**	85	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	2.06	cpm	**MDC**	56	dpm/100cm2	**Sample Count Time**	15	min

30104-28

3.16.04

Material Specific Background and MDC Sheet for Beta Measurements

Instrument/SN: Ludlum 2360 / 185774

Probe/SN: Ludlum 43-68 / RN012713

Background Count Time 5.00 minutes

Total Instrument Effciency 0.0900 dpm/cpm

Wall Board	**(WB)**	271.18	cpm	**MDC**	248	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**(FT)**	347.86	cpm	**MDC**	281	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**(WO)**	250.42	cpm	**MDC**	239	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**(CF)**	498.62	cpm	**MDC**	336	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**(ME)**	325.46	cpm	**MDC**	272	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**(CB)**	530.62	cpm	**MDC**	347	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**(GL)**	370.34	cpm	**MDC**	290	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**(CT)**	286.78	cpm	**MDC**	255	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	393.98	cpm	**MDC**	299	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	306.64	cpm	**MDC**	264	dpm/100cm2	**Sample Count Time**	15.00	min

030104-28

3.16.04

Material Specific Background and MDC Sheet for Alpha Measurements

Instrument/SN: Ludlum 2360 / 185768

Probe/SN: Ludlum 43-68 / RN012714

Background count time 5 minutes

Total Instrument Effciency 0.0375 dpm/cpm

Wall Board	**WB**	1.82	cpm	**MDC**	53	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**FT**	2.22	cpm	**MDC**	58	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**WO**	3.10	cpm	**MDC**	68	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**CF**	5.52	cpm	**MDC**	89	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**ME**	1.84	cpm	**MDC**	53	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**CB**	2.50	cpm	**MDC**	61	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**GL**	4.38	cpm	**MDC**	79	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**CT**	1.68	cpm	**MDC**	51	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	16.10	cpm	**MDC**	149	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	3.42	cpm	**MDC**	71	dpm/100cm2	**Sample Count Time**	15	min

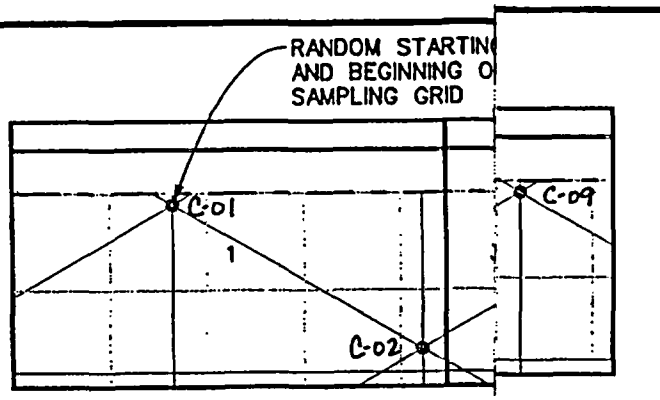
3.16.04.

Material Specific Background and MDC Sheet for Beta Measurements

Instrument/SN: Ludlum 2360 / 185768 Background Count Time 5.00 minutes

Probe/SN: Ludlum 43-68 / RN012714 Total Instrument Effciency 0.0850 dpm/cpm

Wall Board	**(WB)**	230.00	cpm	**MDC**	242	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**(FT)**	275.22	cpm	**MDC**	265	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**(WO)**	210.12	cpm	**MDC**	232	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**(CF)**	357.50	cpm	**MDC**	302	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**(ME)**	256.10	cpm	**MDC**	256	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**(CB)**	446.00	cpm	**MDC**	337	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**(GL)**	304.00	cpm	**MDC**	278	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**(CT)**	232.08	cpm	**MDC**	244	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	385.38	cpm	**MDC**	313	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	285.78	cpm	**MDC**	270	dpm/100cm2	**Sample Count Time**	15.00	min



ELEVATION
SCALE: 1" = 2.0 m

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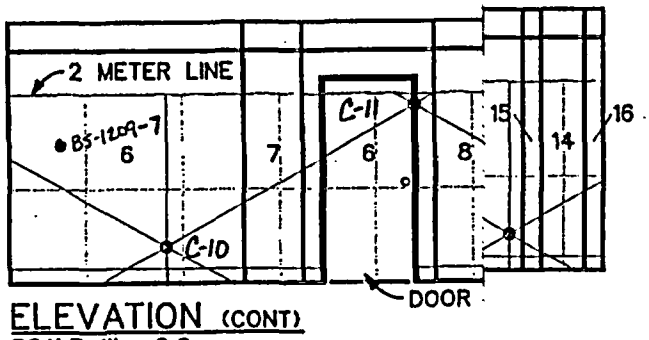


ELEVATION (CONT)
SCALE: 1" = 2.0 m

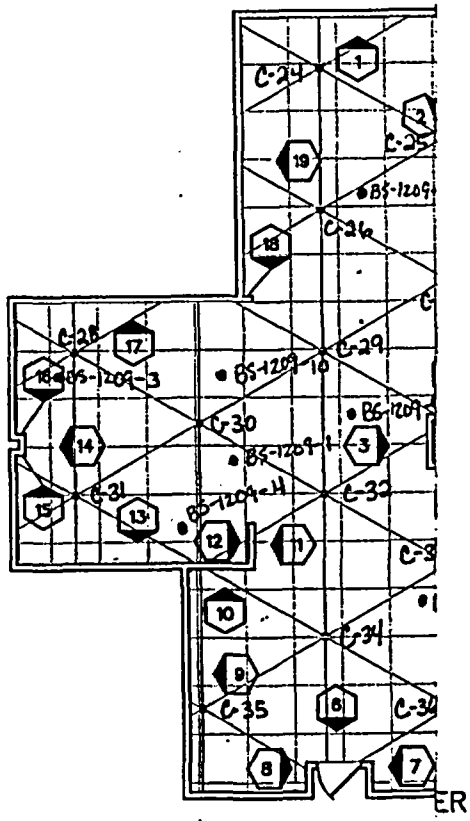
NOTES

1. WALL SURFACE AREA: 120.4935 SQ. M.

   FLOOR SURFACE AREA: 109.2629 SQ. M.

   TOTAL SURFACE AREA: 229.7564 SQ. M.

2. THE LENGTH OF EACH LEG OF THE TRIANGULAR SAMPLING GRID IS 2.974 METERS



PLAN VIEW
SCALE: 1" = 4.0 m

FIGURE 3-4
TRIANGULAR GRID FOR LABORATORY A1209

EPA NEIC
DENVER FEDERAL CENTER
LAKEWOOD, COLORADO

Shaw Shaw Environmental, Inc.

DWG. NO.: 101115_neic_0002.dgn
PROJ. NO.: 101115
TECH. REVIEW: R.COLLINS
PROJ. MGR.: R.L.ROGERS
INITIATOR: R.COLLINS
CADD REVIEW: C.BENTLEY
STARTING DATE: 25NOV03
DRAWN BY: C.E.TUMLIN

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101115_neic_0002.dgn

D30104-28
3-16-04

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT	PROJECT NUMBER: 101115	DATE: 030104	TIME START: 1300	TIME COMPLETE: 1320	PAGE 1 OF 3
LOCATION: EPA NEIC RM A1209	SURVEYOR(S): Stephens / Trent				
Denver Federal Center, CO	SURVEY NUMBER: 030104-29				
Denver, CO	MAP ID: LAB A1209				

ACCEPTABLE SURFACE CONTAMINATION LEVELS
Loose 20 dpm/100cm² Alpha 200 dpm/100cm² Beta-Gamma
Total 100 dpm/100cm² Alpha 1,000 dpm/100cm² Beta-Gamma

ACCEPTABLE SCAN LIMITS

Source Check Data	Contamination Surveys				Radiation Surveys
	α (LOOSE)	α (TOTAL)	β-γ (LOOSE)	β-γ (TOTAL)	Beta-Gamma
Instrument	*NOTE	NA	*NOTE	NA	NA
Source Type and I.D.					
Source Strength in dpm					µCi
Efficiency					
MDC in dpm/100 cm²					Set. ☐ Unset. ☐
Background in cpm					mrem/hr or µrem/hr

REASON FOR SURVEY
☒ PROCEDURE NO. FINAL STATUS SURVEY PLAN
☐ SPECIAL Smears
☐ ROUTINE
Contamination ☒ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐
Radiation ☐ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐

COMMENTS: NOTE: SEE DATA PACKGE FROM PARAGON ANALYTICS, INC. FOR REMOVABLE ACTIVITY RESULTS AND INSTRUMENT INFORMATION.

Contamination Survey INSTRUMENT / SERIAL #	ALPHA (LOOSE) PERFORMED BY PARAGON ANALYTICS, INC.	BETA-GAMMA (LOOSE) PERFORMED BY PARAGON ANALYTICS, INC.
	ALPHA (TOTAL) N/A	BETA-GAMMA (TOTAL) N/A
Radiation Survey INSTRUMENT / SERIAL #	BETA-GAMMA Meter N/A	BETA-GAMMA Probe N/A

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
1	*NOTE	NA	*NOTE	NA	NA	C-01
2						C-02
3						C-03
4						C-04
5						C-05
6						C-06
7						C-07
8						C-08
9						C-09
10						C-10
11						C-11
12						C-12
13						C-13
14						C-14
15						C-15
16						C-16
17						C-17
18						C-18
19						C-19
20						C-20
21						C-21
22						C-22
23						C-23
24						C-24
25						C-25

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RCS REVIEW [signature] DATE 3-4-04

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT (CONTINUATION SHEET)

PROJECT NUMBER: 101115 | DATE: 030104 | PAGE 2 OF 3

LOCATION: EPA NEIC
Denver Federal Center, Building 53
Denver, CO

SURVEYOR(S): Stephens / Trent
SURVEY NUMBER: 030104-29
MAP ID: LAB A1209

COMMENTS:

RCS REVIEW [signature] DATE 3-4-04

Item #	Alpha LOOSE dpm/100cm²	Alpha TOTAL dpm/100cm²	Beta-Gamma LOOSE dpm/100cm²	Beta-Gamma TOTAL dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
26						C26
27						C-27
28						C-28
29						C 29
30						C 30
31						C 31
32						C-32
33						C-33
34						C-34
35						C35
36						C36
37						Duplicate #20
38						Duplicate # 36
39						BS A1209 - 01
40						02
41						03
42						04
43						05
44						06
45						07
46						08
47						09
48						10
49						
50						

Item #	Alpha LOOSE dpm/100cm²	Alpha TOTAL dpm/100cm²	Beta-Gamma LOOSE dpm/100cm²	Beta-Gamma TOTAL dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
51						
52						
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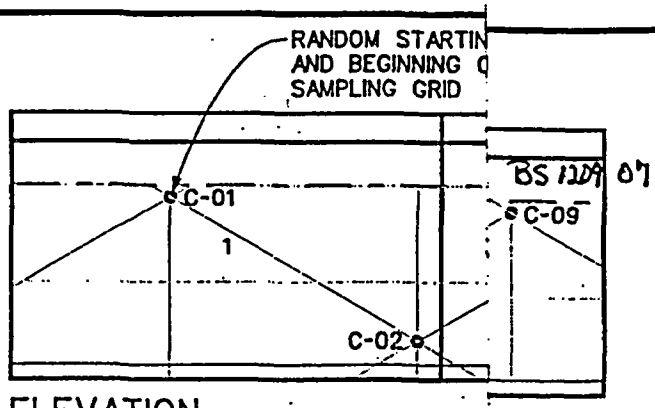
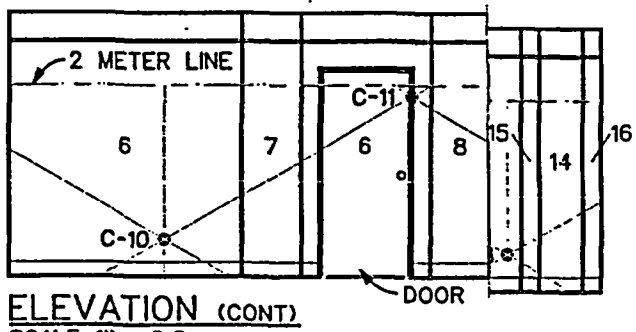
THE KNOWING & WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.

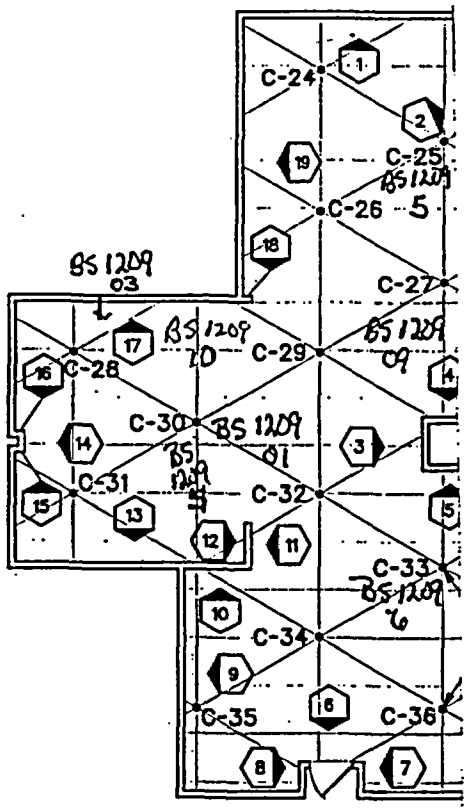


ELEVATION
SCALE: 1" = 2.0 m

RID
ONLY (TYP)



ELEVATION (CONT)
SCALE: 1" = 2.0 m



PLAN VIEW
SCALE: 1" = 4.0 m

NOTES

1. WALL SURFACE AREA: 120.4935 SQ. M.

   FLOOR SURFACE AREA: 109.2629 SQ. M.

   TOTAL SURFACE AREA: 229.7564 SQ. M.

2. THE LENGTH OF EACH LEG OF THE TRIANGULAR SAMPLING GRID IS 2.974 METERS

FIGURE 3-4
TRIANGULAR SAMPLING GRID FOR LABORATORY A1209

EPA NEIC
DENVER FEDERAL CENTER
LAKEWOOD, COLORADO

Shaw Environmental, Inc.

STARTING DATE: 25NOV03 | INITIATOR: R.COLLINS | TECH. REVIEW: R.COLLINS | DWG. NO.: 101115_neic_0002.dgn
DRAWN BY: C.E.TUMLIN | CADD REVIEW: C.BENTLEY | PROJ. MGR.: R.L.ROGERS | PROJ. NO.: 101115

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030104-09

PARAGON ANALYTICS
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

March 26, 2004

Mr. Eddie Weaver
Shaw E & I
312 Directors Drive
Knoxville, TN 37923

Re: Paragon Workorder: 04-03-062
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Dear Mr. Weaver:

Fifty wipe samples were received from Shaw E & I on March 8, 2004. The samples were scheduled for Gross Alpha/Beta (pages 1-205) analysis. The results for this analysis are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics. Should you have any questions, please call.

Sincerely,

Debbie Fazio

Paragon Analytics
Debbie Fazio
Project Manager

DJF/ja
Enclosure: Report

MAR 30 2004

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0403062
Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
030104-28-01	0403062-1		WIPE	02-Mar-04	11:15
030104-28-02	0403062-2		WIPE	02-Mar-04	11:15
030104-28-03	0403062-3		WIPE	02-Mar-04	11:15
030104-28-04	0403062-4		WIPE	02-Mar-04	11:15
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030104-28-06	0403062-6		WIPE	02-Mar-04	11:15
030104-28-07	0403062-7		WIPE	02-Mar-04	11:15
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030104-28-29	0403062-29		WIPE	02-Mar-04	11:15
030104-28-30	0403062-30		WIPE	02-Mar-04	11:15
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030104-28-32	0403062-32		WIPE	02-Mar-04	11:17

040306Z

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: AUZ9030104-28
PAGE 1 of 3

Bill to:

Project No. 101115
Project name EPA NEIC EDDP
Sample Coordinator James Nelson / 303-233-1279
Project Manager Randy Rodgers / 865-694-7457
Sample Team Members T. TRENT, J. STEPHENS

Sample Shipment Date
Lab Destination Paragon Analytics, Inc.
Lab Contact Debbie FAZIO
Project Contact/phone Ben Dettorre / 865-670-2669
Carrier Waybill No.

Report to: Ben Dettore, 312 Directors Drive, Knoxville, TN 37923

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
1	030104-28-01	Rm A1209 FSS Location C-01	3-2-04 1115	Smear		
2	-02	-02				
3	-03	-03				
4	-04	-04				
5	-05	-05				
6	-06	-06				
7	-07	-07				
8	-08	-08				

Special Instructions:

Possible Hazard Identification: Non-haz ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: Return to Client ☐ Disposal by Lab ☒ Archive ☐

Turnaround Time Required: Normal ☒ Rush ☐

QC Level: I. ☐ II. ☐ III. ☐ Project Specific: Defined in QAPP

1. Relinquished by (Signature/Affiliation)	Date: 3-5-04 Time: 0800	1. Received by (Signature/Affiliation)	Date: 3-5-04 Time: 0800
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: 3-8-04 Time: 1635
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: ANALYSIS: Gross Alpha/Beta - MDC (REPORTING LIMITS) of <1.1 dpm/smear for alpha
<100 dpm/smear for beta

040306Z

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: A1209-030104-28

Project Name/Project No. EPA NEIC EDDP / 101115 Lab Destination Paragon Analytics, Inc. Sample Shipment Date

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
9	030104-28-09	RmA1209 FSS Location C-09	3-2-04 1115	Smear		
10	-10	-10				
11	-11	-11				
12	-12	-12				
13	-13	-13				
14	-14	-14				
15	-15	-15				
16	-16	-16				
17	-17	-17				
18	-18	-18				
19	-19	-19				
20	-20	-20				
21	-21	-21				
22	-22	-22				
23	-23	-23				
24	-24	-24				
25	-25	-25				
26	-26	-26				
27	-27	-27				
28	-28	-28				
29	-29	-29				
30	-30	-30				

040306-2

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: A1209-030104-28

Project Name/Project No. EPA NEIC EDDP / 101115 Lab Destination Paragon Analytics, Inc. Sample Shipment Date

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
31	030104-28-31	Rm A1209 FSS Location C-31	3-2-04 1117	Smear		
32	32	-32				
33	33	-33				
34	34	-34				
35	35	-35				
36	36	-36				
37	37	BS-1209-01				
38	38	-02				
39	39	-03				
40	40	-04				
41	41	-05				
42	42	-06				
43	43	-07				
44	44	-08				
45	45	-09				
46	46	-10				
47	-20 FD	Rm 1209 FSS Loc C-20 Field Dup				
48	-36 FD	C-36 Field Dup				
49	-45 FD	BS-1209-09 Field Dup				
50	-FB	Field Blank				
~~51~~		N				
~~52~~		A				

DF 3/9/04

PAGE 04
SHAW E I
3037226695
12/20/2003 23:47

Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: Shaw Knox Veic WORKORDER NO: 0403062

PROJECT MANAGER: DF INITIALS: Ano DATE: 3/8/04

1. Does this project require any special handling in addition to standard Paragon procedures?		Yes	No
IS PRE-SCREENING REQUIRED? (radiochemistry, DOE, etc.)		Yes	No
2. Are custody seals on shipping containers intact? How many custody seals are provided? _____	N/A	Yes	No
3. Are the custody seals on sample containers intact?	N/A	Yes	No
4. Is there a Chain-of-Custody (COC) or other representative documents, letters, or shipping memos?		Yes	No
5. Is the COC complete? Relinquished: Yes Y No___ Analyses Requested: Yes Y No___	N/A	Yes	No
6. Is the COC in agreement with the samples received? No. of Samples: Yes Y No___ Sample ID's: Yes Y No___ Matrix: Yes Y No___ No. of Containers: Yes Y No___	N/A	Yes	No
7. Were COC (if applicable) and sample labels legible?		Yes	No
8. Were airbills present and/or removable?	N/A	Yes	No
9. Are all aqueous samples requiring chemical preservation preserved correctly (excluding volatile organics)?	N/A	Yes	No
Are all aqueous non-preserved samples at the correct pH?		Yes	No
10. Is there enough sample for requested analyses? If so, were samples placed in the proper containers?		Yes	No
11. Are all samples within holding times for the requested analyses?		Yes	No
12. Were all sample containers received intact? (not broken or leaking, etc.)		Yes	No
13. Are samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? Size of bubble: ___ < green pea; ___ > green pea (List sample IDs and affected containers on Page 2)	N/A	Yes	No
14. Were samples checked for and free from the presence of residual chlorine?	N/A	Yes	No
15. Were the sample(s) shipped on ice?	N/A	Yes	No
16. Were cooler temperatures measured at 0.1 - 6 °C ? IR Gun Used*: 1 2	N/A	Yes	No
17. Were all samples cooled that should have been cooled?	N/A	Yes	No

Cooler #'s BW

Temperature ambient °C

Project Manager Signature / Date: Debbie Fizio 3/9/04

A NO RESPONSE TO ANY QUESTION EXCEPT # 1 REQUIRES THE COMPLETION OF PAGE 2 OF THIS FORM

* IR Gun #1 (original): Raytek, SN SC-PM3/T29403
IR Gun #2 (newer): Oakton, SN 2SCIR1201

Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: Shaw Knoxville (NEIC) WORKORDER NO: _____

PROJECT MANAGER: D. Fazio INITIALS: DF DATE: 3/9/04

- ☐ Custody seals broken (on outside of shipping container or on sample containers).
- ☒ No Chain-of-Custody (COC) present.
- ☐ Number of samples on the COC do not match the number of samples received.
- ☐ Aqueous samples not preserved correctly (see pH discussion below).
- ☐ SVOC samples contained residual chlorine (list sample IDs and affected containers below).
- ☐ Samples received at inappropriate temperature.
- ☐ Insufficient sample to perform requested analyses.
- ☐ Extraction or analytical holding times expired in transit.
- ☐ Broken/leaking bottles and intact bottles received in same cooler (list affected sample IDs below).
- ☐ No analyses requested.
- ☐ Incorrect sample type received.
- ☐ VOAs, reactive CN/S, radon not headspace free (list sample IDs and affected vials below).
- ☐ Airbills not present and/or removable (record applicable shipper's tracking number below).
- ☐ Other (describe below).

Describe discrepancy:

WIPES FOR REFERENCE DOCUMENTS: A1209-030104-28 & A1209-030104-8.28 DF 3/9/04
WERE RECEIVED 3/8/04 1635.
CHAINS RECEIVED BY FACSIMILE 3/9/04
REF DOCUMENT A1209-030104-28 SENT TO PARAGON in error. Courier to pick up and return to SHAW 3/9/04 Per JAMES Nelson

Was the client contacted? ___ No; ___ Yes: Name _____ Date/Time _____

Was the pH of any sample adjusted by the laboratory? ___ No; ___ Yes (see Table below):

NOTE: No pH adjustments shall be made without prior consent of Project Manager. After pH adjustment, hold metals and radchem samples ≥ 16 hr before analysis.

Sample ID	*Initial pH*	*Final pH (wait 30 min)*	*Type of Reagent Used*	*Lot No. of Reagent Used*	*Initials / Date / Time*

Was the laboratory directed to proceed with the analysis of any samples yielding the presence of residual chlorine? ___ No; ___ Yes (see notes above).

Project Manager Signature / Date: Debbie Fazio 3/9/04

Paragon Analytics

Radiochemistry Case Narrative
Gross Alpha/Beta

Shaw E & I

EPA NEIC EDDP / 101115

Paragon WO 0403062

1. This report consists of the analytical results and supporting documentation for 50 filter samples received by Paragon on 3/8/04.

2. These samples were prepared according to Paragon Analytics procedure SOP702R16.

3. The samples submitted by the client were placed in stainless steel counting planchets and were analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytics procedure PA SOP724R8. The analyses were completed on 3/25/04. Calibrations and calculations are defined in Paragon Analytics procedure PA SOP702R16. Gross Alpha and Gross Beta results are referenced to NIST traceable planchet sources containing ^{241}Am and ^{90}Sr, respectively.

4. The analysis results for these samples are reported on an 'as received' basis in units of DPM/sample.

5. Sample volumes were insufficient to allow preparation of a duplicate. A duplicate analysis of samples 0403061-4,-14,-26,-36,-45 was performed in lieu of a prepared duplicate. Please refer to cross reference table for client IDs.

6. PAI follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.

7. The magnitude of the negative alpha activity for sample 030104-28-02 (Paragon ID 0403062-2) is greater than the 2 sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is not believed to be affected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

8. No anomalous situations were encountered during the preparation or analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Leah Balko — 3/26/04

Leah Balko
Radiochemistry Instrument Technician

Date

Clare Sevicek — 3/26/04

Radiochemistry Final Data Review

Date

1

PARAGON ANALYTICS
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:13 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-1	030104-28-01	Sample	GROSS ALPHA	-0.01 +/- 0.24	0.65	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-1	030104-28-01	Sample	GROSS BETA	0.14 +/- 0.61	1.39	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-2	030104-28-02	Sample	GROSS ALPHA	-0.31 +/- 0.29	0.90	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-2	030104-28-02	Sample	GROSS BETA	-0.12 +/- 0.58	1.37	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-3	030104-28-03	Sample	GROSS ALPHA	0.02 +/- 0.31	0.77	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-3	030104-28-03	Sample	GROSS BETA	0.16 +/- 0.63	1.42	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-4	030104-28-04	Sample	GROSS ALPHA	-0.06 +/- 0.33	0.87	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-4	030104-28-04	Sample	GROSS BETA	1.01 +/- 0.71	1.42	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-5	030104-28-05	Sample	GROSS ALPHA	0.18 +/- 0.31	0.67	DPM/sample	WIPE	AB040312-8	3/19/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

000004

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004
9:09:13 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-5	030104-28-05	Sample	GROSS BETA	-0.14 +/- 0.61	1.43	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-6	030104-28-06	Sample	GROSS ALPHA	0.45 +/- 0.37	0.66	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-6	030104-28-06	Sample	GROSS BETA	0.58 +/- 0.70	1.49	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-7	030104-28-07	Sample	GROSS ALPHA	0.08 +/- 0.28	0.65	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-7	030104-28-07	Sample	GROSS BETA	0.26 +/- 0.66	1.47	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-8	030104-28-08	Sample	GROSS ALPHA	-0.12 +/- 0.27	0.77	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-8	030104-28-08	Sample	GROSS BETA	0.66 +/- 0.69	1.45	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-9	030104-28-09	Sample	GROSS ALPHA	-0.05 +/- 0.24	0.68	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-9	030104-28-09	Sample	GROSS BETA	0.01 +/- 0.61	1.42	DPM/sample	WIPE	AB040312-8	3/19/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004
9:09:13 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-10	030104-28-10	Sample	GROSS ALPHA	0.22 +/- 0.33	0.68	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-10	030104-28-10	Sample	GROSS BETA	0.26 +/- 0.65	1.44	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-11	030104-28-11	Sample	GROSS ALPHA	0.19 +/- 0.34	0.73	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-11	030104-28-11	Sample	GROSS BETA	0.51 +/- 0.75	1.64	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-12	030104-28-12	Sample	GROSS ALPHA	-0.01 +/- 0.26	0.68	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-12	030104-28-12	Sample	GROSS BETA	0.38 +/- 0.72	1.58	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-13	030104-28-13	Sample	GROSS ALPHA	0.19 +/- 0.33	0.71	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-13	030104-28-13	Sample	GROSS BETA	0.34 +/- 0.62	1.36	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-14	030104-28-14	Sample	GROSS ALPHA	0.13 +/- 0.31	0.70	DPM/sample	WIPE	AB040312-8	3/19/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000006

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:13 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-14	030104-28-14	Sample	GROSS BETA	1.14 +/- 0.77	1.54	DPM/sample	WIPE	AB040312-8	3/19/04	U
0403062-15	030104-28-15	Sample	GROSS ALPHA	0.14 +/- 0.29	0.64	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-15	030104-28-15	Sample	GROSS BETA	-0.20 +/- 0.59	1.40	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-16	030104-28-16	Sample	GROSS ALPHA	0.30 +/- 0.37	0.76	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-16	030104-28-16	Sample	GROSS BETA	-0.49 +/- 0.62	1.49	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-17	030104-28-17	Sample	GROSS ALPHA	-0.02 +/- 0.25	0.66	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-17	030104-28-17	Sample	GROSS BETA	0.68 +/- 0.69	1.45	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-18	030104-28-18	Sample	GROSS ALPHA	0.29 +/- 0.36	0.74	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-18	030104-28-18	Sample	GROSS BETA	0.59 +/- 0.69	1.46	DPM/sample	WIPE	AB040312-8	3/22/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
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Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:14 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-19	030104-28-19	Sample	GROSS ALPHA	0.14 +/- 0.28	0.62	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-19	030104-28-19	Sample	GROSS BETA	0.50 +/- 0.66	1.43	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-20	030104-28-20	Sample	GROSS ALPHA	0.15 +/- 0.35	0.79	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-20	030104-28-20	Sample	GROSS BETA	0.80 +/- 0.71	1.47	DPM/sample	WIPE	AB040312-8	3/22/04	U
0403062-21	030104-28-21	Sample	GROSS ALPHA	0.07 +/- 0.28	0.68	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-21	030104-28-21	Sample	GROSS BETA	0.62 +/- 0.66	1.41	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-22	030104-28-22	Sample	GROSS ALPHA	0.32 +/- 0.36	0.71	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-22	030104-28-22	Sample	GROSS BETA	0.42 +/- 0.63	1.36	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-23	030104-28-23	Sample	GROSS ALPHA	-0.02 +/- 0.23	0.62	DPM/sample	WIPE	AB040312-9	3/22/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000008

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:14 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-23	030104-28-23	Sample	GROSS BETA	0.02 +/- 0.59	1.37	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-24	030104-28-24	Sample	GROSS ALPHA	0.21 +/- 0.34	0.72	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-24	030104-28-24	Sample	GROSS BETA	0.60 +/- 0.66	1.39	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-25	030104-28-25	Sample	GROSS ALPHA	0.10 +/- 0.28	0.64	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-25	030104-28-25	Sample	GROSS BETA	0.85 +/- 0.68	1.40	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-26	030104-28-26	Sample	GROSS ALPHA	0.14 +/- 0.34	0.77	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-26	030104-28-26	Sample	GROSS BETA	0.44 +/- 0.68	1.49	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-27	030104-28-27	Sample	GROSS ALPHA	0.06 +/- 0.28	0.66	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-27	030104-28-27	Sample	GROSS BETA	0.45 +/- 0.67	1.45	DPM/sample	WIPE	AB040312-9	3/22/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000009

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:14 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-28	030104-28-28	Sample	GROSS ALPHA	0.05 +/- 0.30	0.74	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-28	030104-28-28	Sample	GROSS BETA	0.74 +/- 0.70	1.46	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-29	030104-28-29	Sample	GROSS ALPHA	0.18 +/- 0.29	0.62	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-29	030104-28-29	Sample	GROSS BETA	0.05 +/- 0.63	1.43	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-30	030104-28-30	Sample	GROSS ALPHA	-0.22 +/- 0.26	0.79	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-30	030104-28-30	Sample	GROSS BETA	0.79 +/- 0.70	1.46	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-31	030104-28-31	Sample	GROSS ALPHA	0.13 +/- 0.35	0.79	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-31	030104-28-31	Sample	GROSS BETA	0.32 +/- 0.75	1.66	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-32	030104-28-32	Sample	GROSS ALPHA	-0.07 +/- 0.25	0.70	DPM/sample	WIPE	AB040312-9	3/22/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000010

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004
9:09:14 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-32	030104-28-32	Sample	GROSS BETA	0.15 +/- 0.68	1.54	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-33	030104-28-33	Sample	GROSS ALPHA	-0.17 +/- 0.23	0.72	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-33	030104-28-33	Sample	GROSS BETA	0.86 +/- 0.67	1.35	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-34	030104-28-34	Sample	GROSS ALPHA	0.06 +/- 0.25	0.62	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-34	030104-28-34	Sample	GROSS BETA	0.33 +/- 0.62	1.37	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-35	030104-28-35	Sample	GROSS ALPHA	-0.03 +/- 0.27	0.72	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-35	030104-28-35	Sample	GROSS BETA	0.11 +/- 0.61	1.38	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-36	030104-28-36	Sample	GROSS ALPHA	-0.13 +/- 0.26	0.74	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-36	030104-28-36	Sample	GROSS BETA	-0.13 +/- 0.66	1.54	DPM/sample	WIPE	AB040312-9	3/22/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

00011

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:14 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-37	030104-28-37	Sample	GROSS ALPHA	0.22 +/- 0.36	0.77	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-37	030104-28-37	Sample	GROSS BETA	0.86 +/- 0.72	1.49	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-38	030104-28-38	Sample	GROSS ALPHA	0.10 +/- 0.29	0.66	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-38	030104-28-38	Sample	GROSS BETA	0.40 +/- 0.66	1.45	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-39	030104-28-39	Sample	GROSS ALPHA	0.13 +/- 0.32	0.74	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-39	030104-28-39	Sample	GROSS BETA	0.59 +/- 0.68	1.46	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-40	030104-28-40	Sample	GROSS ALPHA	0.10 +/- 0.27	0.62	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-40	030104-28-40	Sample	GROSS BETA	0.55 +/- 0.67	1.43	DPM/sample	WIPE	AB040312-9	3/22/04	U
0403062-41	030104-28-41	Sample	GROSS ALPHA	0.02 +/- 0.30	0.75	DPM/sample	WIPE	AB040312-10	3/23/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

B0012

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:15 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-41	030104-28-41	Sample	GROSS BETA	1.13 +/- 0.76	1.54	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-42	030104-28-42	Sample	GROSS ALPHA	0.27 +/- 0.35	0.72	DPM/sample	WIPE	AB040312-10	3/25/04	U
0403062-42	030104-28-42	Sample	GROSS BETA	0.89 +/- 0.67	1.36	DPM/sample	WIPE	AB040312-10	3/25/04	U
0403062-43	030104-28-43	Sample	GROSS ALPHA	-0.06 +/- 0.30	0.79	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-43	030104-28-43	Sample	GROSS BETA	0.44 +/- 0.75	1.66	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-44	030104-28-44	Sample	GROSS ALPHA	-0.17 +/- 0.27	0.79	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-44	030104-28-44	Sample	GROSS BETA	0.06 +/- 0.64	1.46	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-45	030104-28-45	Sample	GROSS ALPHA	0.43 +/- 0.36	0.62	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-45	030104-28-45	Sample	GROSS BETA	0.04 +/- 0.63	1.44	DPM/sample	WIPE	AB040312-10	3/23/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

0600013

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004
9:09:15 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-46	030104-28-46	Sample	GROSS ALPHA	0.53 +/- 0.42	0.74	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-46	030104-28-46	Sample	GROSS BETA	0.52 +/- 0.68	1.47	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-47	030104-28-20FD	Sample	GROSS ALPHA	0.26 +/- 0.33	0.67	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-47	030104-28-20FD	Sample	GROSS BETA	0.69 +/- 0.69	1.46	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-48	030104-28-36FD	Sample	GROSS ALPHA	0.22 +/- 0.36	0.77	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-48	030104-28-36FD	Sample	GROSS BETA	0.31 +/- 0.67	1.49	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-49	030104-28-45FD	Sample	GROSS ALPHA	0.23 +/- 0.34	0.71	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-49	030104-28-45FD	Sample	GROSS BETA	0.02 +/- 0.64	1.47	DPM/sample	WIPE	AB040312-10	3/23/04	U
0403062-50	030104-28-FB	Sample	GROSS ALPHA	0.10 +/- 0.28	0.64	DPM/sample	WIPE	AB040312-10	3/23/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000014

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Reported on: Friday, March 26, 2004 9:09:15 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403062-50	030104-28-FB	Sample	GROSS BETA	0.45 +/- 0.64	1.40	DPM/sample	WIPE	AB040312-10	3/23/04	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

P000015

PARAGON ANALYTICS

Radiochemistry Data Package

2

Section 2

QC RESULTS SUMMARY

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-8MB

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.02 +/- 0.32	0.79	U
12587-47-2	GROSS BETA	0 +/- 0.72	1.66	U

Comments:

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

LabID: AB040312-9MB

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.21 +/- 0.25	0.79	U
12587-47-2	GROSS BETA	-0.05 +/- 0.63	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-10MB

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.15 +/- 0.24	0.72	U
12587-47-2	GROSS BETA	0.47 +/- 0.64	1.38	U

Comments:

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-8ALCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0322a

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	11000 +/- 1800	0	9950	111	70 - 130	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-8BLCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0322a

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-47-2	GROSS BETA	40300 +/- 6400	0	41000	98.4	70 - 130	P

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

LabID: AB040312-9ALCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0322d

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	11200 +/- 1800	0	9950	113	70 - 130	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-9BLCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0322d

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-47-2	GROSS BETA	41900 +/- 6700	0	41000	102	70 - 130	P

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

LAB ID: AB040312-10ALCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0323b

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	11200 +/- 1800	0	9950	113	70 - 130	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-10BLCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: abb0323b

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-47-2	GROSS BETA	41500 +/- 6600	0	41000	101	70 - 130	P

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-04
Lab ID: 0403062-4DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	-0.06 +/- 0.33	-0.09 +/- 0.23	0.08	2.13	U
12587-47-2	GROSS BETA	1.01 +/- 0.71	0.71 +/- 0.67	0.31	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-14
Lab ID:	0403062-14DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	0.13 +/- 0.31	0.21 +/- 0.30	0.19	2.13	U
12587-47-2	GROSS BETA	1.14 +/- 0.77	1.13 +/- 0.70	0.01	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-26
Lab ID: 0403062-26DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	0.14 +/- 0.34	0.20 +/- 0.32	0.12	2.13	U
12587-47-2	GROSS BETA	0.44 +/- 0.68	0.17 +/- 0.62	0.29	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-36
Lab ID:	0403062-36DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	-0.13 +/- 0.26	0.18 +/- 0.30	0.79	2.13	U
12587-47-2	GROSS BETA	-0.13 +/- 0.66	0.41 +/- 0.64	0.60	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-45
Lab ID: 0403062-45DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323e

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	0.43 +/- 0.36	0.11 +/- 0.30	0.67	2.13	U
12587-47-2	GROSS BETA	0.04 +/- 0.63	0.52 +/- 0.65	0.52	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403062-1*

PARAGON ANALYTICS
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-01
Lab ID: 0403062-1

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.01 +/- 0.24	0.65	U
12587-47-2	GROSS BETA	0.14 +/- 0.61	1.39	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID	030104-28-02
LabID	0403062-2

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.31 +/- 0.29	0.90	U
12587-47-2	GROSS BETA	-0.12 +/- 0.58	1.37	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-03
Lab ID: 0403062-3

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.02 +/- 0.31	0.77	U
12587-47-2	GROSS BETA	0.16 +/- 0.63	1.42	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-04
Lab ID: 0403062-4

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.06 +/- 0.33	0.87	U
12587-47-2	GROSS BETA	1.01 +/- 0.71	1.42	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-04
Lab ID: 0403062-4DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.09 +/- 0.23	0.68	U
12587-47-2	GROSS BETA	0.71 +/- 0.67	1.40	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-05
Lab ID: 0403062-5

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.18 +/- 0.31	0.67	U
12587-47-2	GROSS BETA	-0.14 +/- 0.61	1.43	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030104-28-06
LabID: 0403062-6

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.45 +/- 0.37	0.66	U
12587-47-2	GROSS BETA	0.58 +/- 0.70	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-07
Lab ID:	0403062-7

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.08 +/- 0.28	0.65	U
12587-47-2	GROSS BETA	0.26 +/- 0.66	1.47	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-08
Lab ID: 0403062-8

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.12 +/- 0.27	0.77	U
12587-47-2	GROSS BETA	0.66 +/- 0.69	1.45	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030104-28-09
LabID: 0403062-9

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.05 +/- 0.24	0.68	U
12587-47-2	GROSS BETA	0.01 +/- 0.61	1.42	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-10	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-8	**Final Aliquot:** 1.00 sample
Lab ID: 0403062-10	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-8-1	**Prep Basis:** As Received
	Date Collected: 02-Mar-04	**Run ID:** ab040312-8a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 19-Mar-04	**Report Basis:** As Received	**File Name:** abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.22 +/- 0.33	0.68	U
12587-47-2	GROSS BETA	0.26 +/- 0.65	1.44	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID	030104-28-11
LabID	0403062-11

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.19 +/- 0.34	0.73	U
12587-47-2	GROSS BETA	0.51 +/- 0.75	1.64	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-12
Lab ID: 0403062-12

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.01 +/- 0.26	0.68	U
12587-47-2	GROSS BETA	0.38 +/- 0.72	1.58	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-13
Lab ID: 0403062-13

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.19 +/- 0.33	0.71	U
12587-47-2	GROSS BETA	0.34 +/- 0.62	1.36	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-14
Lab ID: 0403062-14

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 19-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0319b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.13 +/- 0.31	0.70	U
12587-47-2	GROSS BETA	1.14 +/- 0.77	1.54	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-14
LabID: 0403062-14DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.21 +/- 0.30	0.62	U
12587-47-2	GROSS BETA	1.13 +/- 0.70	1.37	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-15
Lab ID: 0403062-15

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.14 +/- 0.29	0.64	U
12587-47-2	GROSS BETA	-0.20 +/- 0.59	1.40	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-16
Lab ID: 0403062-16

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.30 +/- 0.37	0.76	U
12587-47-2	GROSS BETA	-0.49 +/- 0.62	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030104-28-17
Lab ID	0403062-17

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.02 +/- 0.25	0.66	U
12587-47-2	GROSS BETA	0.68 +/- 0.69	1.45	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID	030104-28-18
Lab ID	0403062-18

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.29 +/- 0.36	0.74	U
12587-47-2	GROSS BETA	0.59 +/- 0.69	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030104-28-19
Lab ID	0403062-19

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 's TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.14 +/- 0.28	0.62	U
12587-47-2	GROSS BETA	0.50 +/- 0.66	1.43	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-20
Lab ID:	0403062-20

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-8
QCBatchID: AB040312-8-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.15 +/- 0.35	0.79	U
12587-47-2	GROSS BETA	0.80 +/- 0.71	1.47	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-21
Lab ID: 0403062-21

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.07 +/- 0.28	0.68	U
12587-47-2	GROSS BETA	0.62 +/- 0.66	1.41	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-22
Lab ID: 0403062-22

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.32 +/- 0.36	0.71	U
12587-47-2	GROSS BETA	0.42 +/- 0.63	1.36	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-23
Lab ID: 0403062-23

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.02 +/- 0.23	0.62	U
12587-47-2	GROSS BETA	0.02 +/- 0.59	1.37	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-24
Lab ID: 0403062-24

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.21 +/- 0.34	0.72	U
12587-47-2	GROSS BETA	0.60 +/- 0.66	1.39	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-25
Lab ID: 0403062-25

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.10 +/- 0.28	0.64	U
12587-47-2	GROSS BETA	0.85 +/- 0.68	1.40	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-26
Lab ID:	0403062-26

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.14 +/- 0.34	0.77	U
12587-47-2	GROSS BETA	0.44 +/- 0.68	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-26	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-9	**Final Aliquot:** 1.00 sample
Lab ID: 0403062-26DUP	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-9-1	**Prep Basis:** As Received
	Date Collected: 02-Mar-04	**Run ID:** ab040312-8a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 22-Mar-04	**Report Basis:** As Received	**File Name:** abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.20 +/- 0.32	0.68	U
12587-47-2	GROSS BETA	0.17 +/- 0.62	1.41	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-27
Lab ID: 0403062-27

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.06 +/- 0.28	0.66	U
12587-47-2	GROSS BETA	0.45 +/- 0.67	1.45	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030104-28-28
Lab ID	0403062-28

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.05 +/- 0.30	0.74	U
12587-47-2	GROSS BETA	0.74 +/- 0.70	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-29
Lab ID: 0403062-29

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.18 +/- 0.29	0.62	U
12587-47-2	GROSS BETA	0.05 +/- 0.63	1.43	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propegated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-30	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-9	**Final Aliquot:** 1.00 sample
Lab ID: 0403062-30	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-9-1	**Prep Basis:** As Received
	Date Collected: 02-Mar-04	**Run ID:** ab040312-8a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 22-Mar-04	**Report Basis:** As Received	**File Name:** abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.22 +/- 0.26	0.79	U
12587-47-2	GROSS BETA	0.79 +/- 0.70	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-31
Lab ID: 0403062-31

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.13 +/- 0.35	0.79	U
12587-47-2	GROSS BETA	0.32 +/- 0.75	1.66	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-32
Lab ID: 0403062-32

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.07 +/- 0.25	0.70	U
12587-47-2	GROSS BETA	0.15 +/- 0.68	1.54	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-33
Lab ID: 0403062-33

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.17 +/- 0.23	0.72	U
12587-47-2	GROSS BETA	0.86 +/- 0.67	1.35	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-34
Lab ID: 0403062-34

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.06 +/- 0.25	0.62	U
12587-47-2	GROSS BETA	0.33 +/- 0.62	1.37	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030104-28-35
Lab ID	0403062-35

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.03 +/- 0.27	0.72	U
12587-47-2	GROSS BETA	0.11 +/- 0.61	1.38	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-26-36
Lab ID: 0403062-36

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.13 +/- 0.26	0.74	U
12587-47-2	GROSS BETA	-0.13 +/- 0.66	1.54	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID	030104-28-36
Lab ID	0403062-36DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.18 +/- 0.30	0.64	U
12587-47-2	GROSS BETA	0.41 +/- 0.64	1.40	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-37
Lab ID: 0403062-37

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.22 +/- 0.36	0.77	U
12587-47-2	GROSS BETA	0.86 +/- 0.72	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-38
Lab ID: 0403062-38

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.10 +/- 0.29	0.66	U
12587-47-2	GROSS BETA	0.40 +/- 0.66	1.45	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-39
Lab ID: 0403062-39

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.13 +/- 0.32	0.74	U
12587-47-2	GROSS BETA	0.59 +/- 0.68	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-40
Lab ID:	0403062-40

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 22-Mar-04

Prep Batch: AB040312-9
QCBatchID: AB040312-9-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0322c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.10 +/- 0.27	0.62	U
12587-47-2	GROSS BETA	0.55 +/- 0.67	1.43	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-41
Lab ID: 0403062-41

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.02 +/- 0.30	0.75	U
12587-47-2	GROSS BETA	1.13 +/- 0.76	1.54	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-42
Lab ID: 0403062-42

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 25-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0325a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.27 +/- 0.35	0.72	U
12587-47-2	GROSS BETA	0.89 +/- 0.67	1.36	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-43
Lab ID: 0403062-43

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.06 +/- 0.30	0.79	U
12587-47-2	GROSS BETA	0.44 +/- 0.75	1.66	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-44
Lab ID:	0403062-44

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.17 +/- 0.27	0.79	U
12587-47-2	GROSS BETA	0.06 +/- 0.64	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-45
Lab ID: 0403062-45

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.43 +/- 0.36	0.62	U
12587-47-2	GROSS BETA	0.04 +/- 0.63	1.44	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-45
Lab ID: 0403062-45DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323e

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.11 +/- 0.30	0.68	U
12587-47-2	GROSS BETA	0.52 +/- 0.65	1.41	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-46	Sample Matrix: WIPE	Prep Batch: AB040312-10	Final Aliquot: 1.00 sample
Lab ID: 0403062-46	Prep SOP: PAI 702 Rev 16	QCBatchID: AB040312-10-1	Prep Basis: As Received
	Date Collected: 02-Mar-04	Run ID: ab040312-8a	Moisture(%): NA
	Date Prepared: 12-Mar-04	Count Time: 100 minutes	Result Units: DPM/sample
	Date Analyzed: 23-Mar-04	Report Basis: As Received	File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.53 +/- 0.42	0.74	U
12587-47-2	GROSS BETA	0.52 +/- 0.68	1.47	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-20FD
Lab ID:	0403062-47

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.26 +/- 0.33	0.67	U
12587-47-2	GROSS BETA	0.69 +/- 0.69	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-36FD
Lab ID:	0403062-48

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.22 +/- 0.36	0.77	U
12587-47-2	GROSS BETA	0.31 +/- 0.67	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030104-28-45FD
Lab ID:	0403062-49

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.23 +/- 0.34	0.71	U
12587-47-2	GROSS BETA	0.02 +/- 0.64	1.47	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403062
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030104-28-FB
Lab ID: 0403062-50

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 02-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-10
QCBatchID: AB040312-10-1
Run ID: ab040312-8a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323a

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.10 +/- 0.28	0.64	U
12587-47-2	GROSS BETA	0.45 +/- 0.64	1.40	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403062-1*

PARAGON ANALYTICS
Radiochemistry Data Package

4

Section 4

RAW DATA

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID / QC Type	Nuclide / Type	Sample Date/Time	Prep Batch / QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix / %Moist	Samp Alq / Analy Alq	Inst ID / Det ID	AnRunID / File Name	Count Date/Time	GrossCPM / BkgCPM	BaseEff / ProgEff	CntDur(min) / Yield	Activity +/- / 2 s TPU	MDC / DecLev	ReportUnits / ReportBasis	DER / RPD	%Spk. Recov / Flags
0403062-1	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.080	24.75%	100	-0.01	0.65	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A1	abb0319b	12:12 PM	0.078	NA	NA	0.24	NA	As Received	NA	U
0403062-1	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.410	40.98%	100	0.14	1.39	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A1	abb0319b	12:12 PM	1.339	NA	NA	0.81	NA	As Received	NA	U
0403062-2	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.100	24.60%	100	-0.31	0.90	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A2	abb0319b	12:12 PM	0.171	NA	NA	0.29	NA	As Received	NA	U
0403062-2	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.270	40.97%	100	-0.12	1.37	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A2	abb0319b	12:12 PM	1.302	NA	NA	0.58	NA	As Received	NA	U
0403062-3	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.130	25.08%	100	0.02	0.77	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A3	abb0319b	12:12 PM	0.121	NA	NA	0.31	NA	As Received	NA	U
0403062-3	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.530	41.53%	100	0.16	1.42	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A3	abb0319b	12:12 PM	1.439	NA	NA	0.63	NA	As Received	NA	U
0403062-4	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.150	24.77%	100	-0.06	0.87	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A4	abb0319b	12:12 PM	0.158	NA	NA	0.33	NA	As Received	NA	U
0403062-4	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.870	41.30%	100	1.01	1.42	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A4	abb0319b	12:12 PM	1.427	NA	NA	0.71	NA	As Received	NA	U
0403062-4	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.070	24.75%	100	-0.09	0.68	DPM/sample	0.08	
DUP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A1	abb0322	9:06 AM	0.087	NA	NA	0.23	NA	As Received	NA	U
0403062-4	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.680	40.98%	100	0.71	1.40	DPM/sample	0.31	
DUP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A1	abb0322	9:06 AM	1.378	NA	NA	0.67	NA	As Received	NA	U
0403062-5	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.140	25.25%	100	0.18	0.67	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	B3	abb0319b	12:12 PM	0.091	NA	NA	0.31	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403062-5	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.460	42.08%	100	-0.14	1.43	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	B3	abb0319b	12:12 PM	1.491	NA	NA	0.61	NA	As Received	NA	U
0403062-6	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.210	25.71%	100	0.45	0.66	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	B4	abb0319b	12:12 PM	0.092	NA	NA	0.37	NA	As Received	NA	U
0403062-6	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.870	41.60%	100	0.58	1.49	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	B4	abb0319b	12:12 PM	1.585	NA	NA	0.70	NA	As Received	NA	U
0403062-7	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.110	25.53%	100	0.08	0.65	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	C2	abb0319b	12:12 PM	0.084	NA	NA	0.28	NA	As Received	NA	U
0403062-7	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.710	41.94%	100	0.26	1.47	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	C2	abb0319b	12:12 PM	1.582	NA	NA	0.66	NA	As Received	NA	U
0403062-8	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.100	25.24%	100	-0.12	0.77	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	C3	abb0319b	12:12 PM	0.124	NA	NA	0.27	NA	As Received	NA	U
0403062-8	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.810	41.54%	100	0.66	1.45	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	C3	abb0319b	12:12 PM	1.515	NA	NA	0.69	NA	As Received	NA	U
0403062-9	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.080	24.72%	100	-0.05	0.68	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	C4	abb0319b	12:12 PM	0.091	NA	NA	0.24	NA	As Received	NA	U
0403062-9	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.490	41.98%	100	0.01	1.42	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	C4	abb0319b	12:12 PM	1.473	NA	NA	0.61	NA	As Received	NA	U
0403062-10	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.150	24.89%	100	0.22	0.68	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D1	abb0319b	12:12 PM	0.089	NA	NA	0.33	NA	As Received	NA	U
0403062-10	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.620	41.57%	100	0.26	1.44	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D1	abb0319b	12:12 PM	1.484	NA	NA	0.65	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

0089

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403062-11	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.160	25.16%	100	0.19	0.73	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D2	abb0319b	12:12 PM	0.106	NA	NA	0.34	NA	As Received	NA	U
0403062-11	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	2.300	42.47%	100	0.51	1.64	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D2	abb0319b	12:12 PM	2.056	NA	NA	0.75	NA	As Received	NA	U
0403062-12	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.100	25.82%	100	-0.01	0.68	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D3	abb0319b	12:12 PM	0.098	NA	NA	0.26	NA	As Received	NA	U
0403062-12	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	1.990	41.47%	100	0.38	1.58	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D3	abb0319b	12:12 PM	1.815	NA	NA	0.72	NA	As Received	NA	U
0403062-13	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.150	24.60%	100	0.19	0.71	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A2	abb0322	9:06 AM	0.097	NA	NA	0.33	NA	As Received	NA	U
0403062-13	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.440	40.97%	100	0.34	1.36	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A2	abb0322	9:06 AM	1.276	NA	NA	0.62	NA	As Received	NA	U
0403062-14	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	0.140	25.54%	100	0.13	0.70	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D4	abb0319b	12:12 PM	0.100	NA	NA	0.31	NA	As Received	NA	U
0403062-14	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/19/04	2.370	43.03%	100	1.14	1.54	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	D4	abb0319b	12:12 PM	1.853	NA	NA	0.77	NA	As Received	NA	U
0403062-14	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.130	25.06%	100	0.21	0.62	DPM/sample	0.19	
DUP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A3	abb0322	9:06 AM	0.071	NA	NA	0.30	NA	As Received	NA	U
0403062-14	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.830	41.53%	100	1.13	1.37	DPM/sample	0.01	
DUP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	A3	abb0322	9:06 AM	1.338	NA	NA	0.70	NA	As Received	NA	U
0403062-15	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.120	25.25%	100	0.14	0.64	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 s	B3	abb0322	9:06 AM	0.081	NA	NA	0.29	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000090

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403062-15	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	1.380	42.08%	100	-0.20	1.40	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	B3	abb0322	9:06 AM	1.441	NA	NA	0.59	NA	As Received	NA	U
0403062-16	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	0.210	25.68%	100	0.30	0.76	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C1	abb0322	9:06 AM	0.128	NA	NA	0.37	NA	As Received	NA	U
0403062-16	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	1.460	42.01%	100	-0.49	1.49	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C1	abb0322	9:06 AM	1.626	NA	NA	0.62	NA	As Received	NA	U
0403062-17	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	0.090	25.53%	100	-0.02	0.66	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C2	abb0322	9:06 AM	0.089	NA	NA	0.25	NA	As Received	NA	U
0403062-17	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	1.850	41.94%	100	0.68	1.45	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C2	abb0322	9:06 AM	1.550	NA	NA	0.69	NA	As Received	NA	U
0403062-18	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	0.190	25.24%	100	0.29	0.74	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C3	abb0322	9:06 AM	0.111	NA	NA	0.36	NA	As Received	NA	U
0403062-18	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	1.810	41.54%	100	0.59	1.46	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C3	abb0322	9:06 AM	1.527	NA	NA	0.69	NA	As Received	NA	U
0403062-19	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	0.110	24.72%	100	0.14	0.62	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C4	abb0322	9:06 AM	0.073	NA	NA	0.28	NA	As Received	NA	U
0403062-19	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	1.740	41.98%	100	0.50	1.43	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	C4	abb0322	9:06 AM	1.509	NA	NA	0.66	NA	As Received	NA	U
0403062-20	GROSS ALPHA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	0.170	24.89%	100	0.15	0.79	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	D1	abb0322	9:06 AM	0.127	NA	NA	0.35	NA	As Received	NA	U
0403062-20	GROSS BETA	3/2/04	AB040312-8	NA	NA	WIPE	1 #	LB4100-b	ab040312-8a	3/22/04	1.910	41.57%	100	0.80	1.47	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-8-1	NA	NA	NA	1 #	D1	abb0322	9:06 AM	1.547	NA	NA	0.71	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000091

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403062-21	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.110	24.75%	100	0.07	0.68	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A1	abb0322b	10:48 AM	0.087	NA	NA	0.28	NA	As Received	NA	U
0403062-21	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.650	40.98%	100	0.62	1.41	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A1	abb0322b	10:48 AM	1.378	NA	NA	0.66	NA	As Received	NA	U
0403062-22	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.180	24.60%	100	0.32	0.71	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A2	abb0322b	10:48 AM	0.097	NA	NA	0.36	NA	As Received	NA	U
0403062-22	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.480	40.97%	100	0.42	1.36	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A2	abb0322b	10:48 AM	1.276	NA	NA	0.63	NA	As Received	NA	U
0403062-23	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.070	25.08%	100	-0.02	0.62	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A3	abb0322b	10:48 AM	0.071	NA	NA	0.23	NA	As Received	NA	U
0403062-23	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.360	41.53%	100	0.02	1.37	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A3	abb0322b	10:48 AM	1.338	NA	NA	0.59	NA	As Received	NA	U
0403062-24	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.160	24.77%	100	0.21	0.72	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A4	abb0322b	10:48 AM	0.102	NA	NA	0.34	NA	As Received	NA	U
0403062-24	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.630	41.30%	100	0.60	1.39	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A4	abb0322b	10:48 AM	1.355	NA	NA	0.66	NA	As Received	NA	U
0403062-25	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.110	25.25%	100	0.10	0.64	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	B3	abb0322b	10:48 AM	0.081	NA	NA	0.28	NA	As Received	NA	U
0403062-25	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.820	42.08%	100	0.85	1.40	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	B3	abb0322b	10:48 AM	1.441	NA	NA	0.68	NA	As Received	NA	U
0403062-26	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.170	25.68%	100	0.14	0.77	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C1	abb0322b	10:48 AM	0.128	NA	NA	0.34	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

0092

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403062-26	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.840	42.01%	100	0.44	1.49	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C1	abb0322b	10:48 AM	1.626	NA	NA	0.68	NA	As Received	NA	U
0403062-26	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.140	24.75%	100	0.20	0.68	DPM/sample	0.12	
DUP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A1	abb0322c	12:46 PM	0.087	NA	NA	0.32	NA	As Received	NA	U
0403062-26	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.470	40.98%	100	0.17	1.41	DPM/sample	0.29	
DUP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	A1	abb0322c	12:46 PM	1.378	NA	NA	0.62	NA	As Received	NA	U
0403062-27	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.110	25.53%	100	0.06	0.66	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C2	abb0322b	10:48 AM	0.089	NA	NA	0.28	NA	As Received	NA	U
0403062-27	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.760	41.94%	100	0.45	1.45	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C2	abb0322b	10:48 AM	1.550	NA	NA	0.67	NA	As Received	NA	U
0403062-28	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.130	25.24%	100	0.05	0.74	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C3	abb0322b	10:48 AM	0.111	NA	NA	0.30	NA	As Received	NA	U
0403062-28	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.860	41.54%	100	0.74	1.46	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C3	abb0322b	10:48 AM	1.527	NA	NA	0.70	NA	As Received	NA	U
0403062-29	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.120	24.72%	100	0.18	0.62	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C4	abb0322b	10:48 AM	0.073	NA	NA	0.29	NA	As Received	NA	U
0403062-29	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.550	41.98%	100	0.05	1.43	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	C4	abb0322b	10:48 AM	1.509	NA	NA	0.63	NA	As Received	NA	U
0403062-30	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.080	24.89%	100	-0.22	0.79	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	D1	abb0322b	10:48 AM	0.127	NA	NA	0.26	NA	As Received	NA	U
0403062-30	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.890	41.57%	100	0.79	1.46	DPM/sample	NA	
SMP	Trg. Analyte	11:15:00 AM	AB040312-9-1	NA	NA	NA	1 s	D1	abb0322b	10:48 AM	1.547	NA	NA	0.70	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
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# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
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L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
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Notes:

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Abbreviations:

TR- Tracer TA - Target Analyte
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MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000093

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID / QC Type	Nuclide / Type	Sample Date/Time	Prep Batch / QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix / %Moist.	Samp Alq / Analy Alq	Inst ID / Det ID	AnRunID / File Name	Count Date/Time	GrossCPM / BkgCPM	BaseEff / ProgEff	CntDur(min) / Yield	Activity +/- / 2 s TPU	MDC / DecLev	ReportUnits / ReportBasis	DER / RPD	%Spk. Recov / Flags
0403062-31	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.170	25.16%	100	0.13	0.79	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	D2	abb0322b	10:48 AM	0.130	NA	NA	0.35	NA	As Received	NA	U
0403062-31	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	2.270	42.47%	100	0.32	1.66	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	D2	abb0322b	10:48 AM	2.103	NA	NA	0.75	NA	As Received	NA	U
0403062-32	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.090	25.82%	100	-0.07	0.70	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	D3	abb0322b	10:48 AM	0.104	NA	NA	0.25	NA	As Received	NA	U
0403062-32	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.790	41.47%	100	0.15	1.54	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	D3	abb0322b	10:48 AM	1.715	NA	NA	0.68	NA	As Received	NA	U
0403062-33	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.060	24.60%	100	-0.17	0.72	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	A2	abb0322c	12:46 PM	0.097	NA	NA	0.23	NA	As Received	NA	U
0403062-33	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.640	40.97%	100	0.86	1.35	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	A2	abb0322c	12:46 PM	1.276	NA	NA	0.67	NA	As Received	NA	U
0403062-34	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.090	25.08%	100	0.06	0.62	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	A3	abb0322c	12:46 PM	0.071	NA	NA	0.25	NA	As Received	NA	U
0403062-34	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.490	41.53%	100	0.33	1.37	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	A3	abb0322c	12:46 PM	1.338	NA	NA	0.62	NA	As Received	NA	U
0403062-35	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.100	24.77%	100	-0.03	0.72	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	A4	abb0322c	12:46 PM	0.102	NA	NA	0.27	NA	As Received	NA	U
0403062-35	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.420	41.30%	100	0.11	1.38	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	A4	abb0322c	12:46 PM	1.355	NA	NA	0.61	NA	As Received	NA	U
0403062-36	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.090	25.54%	100	-0.13	0.74	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	D4	abb0322b	10:48 AM	0.117	NA	NA	0.26	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
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M - Requested MDC not met.
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L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

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2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403062-36	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.800	43.03%	100	-0.13	1.54	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	D4	abb0322b	10:48 AM	1.841	NA	NA	0.66	NA	As Received	NA	U
0403062-36	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.130	25.25%	100	0.18	0.64	DPM/sample	0.79	
DUP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	B3	abb0322c	12:46 PM	0.081	NA	NA	0.30	NA	As Received	NA	U
0403062-36	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.640	42.08%	100	0.41	1.40	DPM/sample	0.60	
DUP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	B3	abb0322c	12:46 PM	1.441	NA	NA	0.64	NA	As Received	NA	U
0403062-37	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.190	25.68%	100	0.22	0.77	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C1	abb0322c	12:46 PM	0.128	NA	NA	0.36	NA	As Received	NA	U
0403062-37	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	2.020	42.01%	100	0.86	1.49	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C1	abb0322c	12:46 PM	1.628	NA	NA	0.72	NA	As Received	NA	U
0403062-38	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.120	25.53%	100	0.10	0.66	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C2	abb0322c	12:46 PM	0.089	NA	NA	0.29	NA	As Received	NA	U
0403062-38	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.740	41.94%	100	0.40	1.45	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C2	abb0322c	12:46 PM	1.550	NA	NA	0.66	NA	As Received	NA	U
0403062-39	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.150	25.24%	100	0.13	0.74	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C3	abb0322c	12:46 PM	0.111	NA	NA	0.32	NA	As Received	NA	U
0403062-39	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.800	41.54%	100	0.59	1.46	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C3	abb0322c	12:46 PM	1.527	NA	NA	0.68	NA	As Received	NA	U
0403062-40	GROSS ALPHA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.100	24.72%	100	0.10	0.62	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C4	abb0322c	12:46 PM	0.073	NA	NA	0.27	NA	As Received	NA	U
0403062-40	GROSS BETA	3/2/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.760	41.98%	100	0.55	1.43	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-9-1	NA	NA	NA	1 s	C4	abb0322c	12:46 PM	1.509	NA	NA	0.67	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000095

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004 4:27:40 PM

Sample ID / QC Type	Nuclide / Type	Sample Date/Time	Prep Batch / QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix / %Moist.	Samp Alq / Analy Alq	Inst ID / Det ID	AnRunID / File Name	Count Date/Time	GrossCPM / BkgCPM	BaseEff / ProgEff	CntDur(min) / Yield	Activity +/- 2 s TPU	MDC / DecLev	ReportUnits / ReportBasis	DER / RPD	%Spk. Recov / Flags
0403062-41	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.130	25.54%	100	0.02	0.75	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	D4	abb0323a	10:20 AM	0.117	NA	NA	0.30	NA	As Received	NA	U
0403062-41	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	2.350	43.03%	100	1.13	1.54	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	D4	abb0323a	10:20 AM	1.841	NA	NA	0.76	NA	As Received	NA	U
0403062-42	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/25/04	0.170	24.60%	100	0.27	0.72	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	A2	abb0325a	8:38 AM	0.097	NA	NA	0.35	NA	As Received	NA	U
0403062-42	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/25/04	1.670	40.97%	100	0.89	1.36	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	A2	abb0325a	8:38 AM	1.276	NA	NA	0.67	NA	As Received	NA	U
0403062-43	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.120	25.16%	100	-0.06	0.79	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	D2	abb0323a	10:20 AM	0.130	NA	NA	0.30	NA	As Received	NA	U
0403062-43	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	2.310	42.47%	100	0.44	1.66	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	D2	abb0323a	10:20 AM	2.103	NA	NA	0.75	NA	As Received	NA	U
0403062-44	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.090	24.89%	100	-0.17	0.79	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	D1	abb0323a	10:20 AM	0.127	NA	NA	0.27	NA	As Received	NA	U
0403062-44	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.590	41.57%	100	0.06	1.46	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	D1	abb0323a	10:20 AM	1.547	NA	NA	0.64	NA	As Received	NA	U
0403062-45	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.180	24.72%	100	0.43	0.62	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C4	abb0323a	10:20 AM	0.073	NA	NA	0.36	NA	As Received	NA	U
0403062-45	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.560	41.98%	100	0.04	1.44	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C4	abb0323a	10:20 AM	1.509	NA	NA	0.63	NA	As Received	NA	U
0403062-45	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.120	24.75%	100	0.11	0.68	DPM/sample	0.67	
DUP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	A1	abb0323e	12:12 PM	0.087	NA	NA	0.30	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
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# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID / QC Type	Nuclide / Type	Sample Date/Time	Prep Batch / QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix / %Moist.	Samp Alq / Analy Alq	Inst ID / Det ID	AnRunID / File Name	Count Date/Time	GrossCPM / BkgCPM	BaseEff / ProgEff	CntDur(min) / Yield	Activity +/- / 2 s TPU	MDC / DecLev	ReportUnits / ReportBasis	DER / RPD	%Spk. Recov / Flags
0403062-45	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.610	40.98%	100	0.52	1.41	DPM/sample	0.52	
DUP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	A1	abb0323e	12:12 PM	1.378	NA	NA	0.65	NA	As Received	NA	U
0403062-46	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.250	25.24%	100	0.53	0.74	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C3	abb0323a	10:20 AM	0.111	NA	NA	0.42	NA	As Received	NA	U
0403062-46	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.790	41.54%	100	0.52	1.47	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C3	abb0323a	10:20 AM	1.527	NA	NA	0.68	NA	As Received	NA	U
0403062-47	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.160	25.53%	100	0.26	0.67	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C2	abb0323a	10:20 AM	0.089	NA	NA	0.33	NA	As Received	NA	U
0403062-47	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.870	41.94%	100	0.69	1.46	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C2	abb0323a	10:20 AM	1.550	NA	NA	0.69	NA	As Received	NA	U
0403062-48	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.190	25.68%	100	0.22	0.77	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C1	abb0323a	10:20 AM	0.128	NA	NA	0.36	NA	As Received	NA	U
0403062-48	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.790	42.01%	100	0.31	1.49	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	C1	abb0323a	10:20 AM	1.626	NA	NA	0.67	NA	As Received	NA	U
0403062-49	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.170	25.71%	100	0.23	0.71	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	B4	abb0323a	10:20 AM	0.107	NA	NA	0.34	NA	As Received	NA	U
0403062-49	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.580	41.60%	100	0.02	1.47	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	B4	abb0323a	10:20 AM	1.537	NA	NA	0.64	NA	As Received	NA	U
0403062-50	GROSS ALPHA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.110	25.25%	100	0.10	0.64	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	B3	abb0323a	10:20 AM	0.081	NA	NA	0.28	NA	As Received	NA	U
0403062-50	GROSS BETA	3/2/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.650	42.08%	100	0.45	1.40	DPM/sample	NA	
SMP	Trg. Analyte	11:17:00 AM	AB040312-10-1	NA	NA	NA	1 s	B3	abb0323a	10:20 AM	1.441	NA	NA	0.64	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
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M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

00097

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
AB040312-10A	GROSS ALPHA	3/12/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	2766.000	24.60%	10	11200	0	DPM/sample	NA	113
LCS	Trg. Analyte	2:59:58 PM	AB040312-10-1	NA	NA	NA	1 s	A2	abb0323b	10:25 AM	0.097	NA	NA	1800	NA	As Received	NA	P,M3
AB040312-10B	GROSS BETA	3/12/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	17255.500	41.53%	10	41500	0	DPM/sample	NA	101
LCS	Trg. Analyte	2:59:58 PM	AB040312-10-1	NA	NA	NA	1 s	A3	abb0323b	10:25 AM	1.338	NA	NA	6600	NA	As Received	NA	P
AB040312-10	GROSS ALPHA	3/12/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	0.070	24.77%	100	-0.15	0.72	DPM/sample	NA	
MB	Trg. Analyte	2:59:58 PM	AB040312-10-1	NA	NA	NA	1 s	A4	abb0323a	10:20 AM	0.102	NA	NA	0.24	NA	As Received	NA	U
AB040312-10	GROSS BETA	3/12/04	AB040312-10	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/23/04	1.560	41.30%	100	0.47	1.38	DPM/sample	NA	
MB	Trg. Analyte	2:59:58 PM	AB040312-10-1	NA	NA	NA	1 s	A4	abb0323a	10:20 AM	1.355	NA	NA	0.64	NA	As Received	NA	U
AB040312-8A	GROSS ALPHA	3/12/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	2842.600	25.82%	10	11000	0	DPM/sample	NA	111
LCS	Trg. Analyte	2:50:50 PM	AB040312-8-1	NA	NA	NA	1 s	D3	abb0322a	8:55 AM	0.104	NA	NA	1800	NA	As Received	NA	P,M3
AB040312-8B	GROSS BETA	3/12/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	17360.498	43.03%	10	40300	0	DPM/sample	NA	98.4
LCS	Trg. Analyte	2:50:50 PM	AB040312-8-1	NA	NA	NA	1 s	D4	abb0322a	8:55 AM	1.841	NA	NA	6400	NA	As Received	NA	P
AB040312-8	GROSS ALPHA	3/12/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.140	25.16%	100	0.02	0.79	DPM/sample	NA	
MB	Trg. Analyte	2:50:50 PM	AB040312-8-1	NA	NA	NA	1 s	D2	abb0322	9:06 AM	0.130	NA	NA	0.32	NA	As Received	NA	U
AB040312-8	GROSS BETA	3/12/04	AB040312-8	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	2.130	42.47%	100	0	1.66	DPM/sample	NA	
MB	Trg. Analyte	2:50:50 PM	AB040312-8-1	NA	NA	NA	1 s	D2	abb0322	9:06 AM	2.103	NA	NA	0.72	NA	As Received	NA	U
AB040312-9A	GROSS ALPHA	3/12/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	2825.300	25.16%	10	11200	0	DPM/sample	NA	113
LCS	Trg. Analyte	2:55:53 PM	AB040312-9-1	NA	NA	NA	1 s	D2	abb0322d	12:46 PM	0.130	NA	NA	1800	NA	As Received	NA	P,M3
AB040312-9B	GROSS BETA	3/12/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	17377.402	41.47%	10	41900	0	DPM/sample	NA	102
LCS	Trg. Analyte	2:55:53 PM	AB040312-9-1	NA	NA	NA	1 s	D3	abb0322d	12:46 PM	1.715	NA	NA	6700	NA	As Received	NA	P
AB040312-9	GROSS ALPHA	3/12/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	0.080	24.89%	100	-0.21	0.79	DPM/sample	NA	
MB	Trg. Analyte	2:55:53 PM	AB040312-9-1	NA	NA	NA	1 s	D1	abb0322c	12:46 PM	0.127	NA	NA	0.25	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
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H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propegated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000098

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403062

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
4:27:40 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
AB040312-9	GROSS BETA	3/12/04	AB040312-9	NA	NA	WIPE	1 s	LB4100-b	ab040312-8a	3/22/04	1.540	41.57%	100	-0.05	1.46	DPM/sample	NA	
MB	Trg. Analyte	2:55:53 PM	AB040312-9-1	NA	NA	NA	1 s	D1	abb0322c	12:46 PM	1.547	NA	NA	0.63	NA	As Received	NA	U

Comments:

Data Package ID: *ABF0403062-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer · TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

PAI - G[illegible]ow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB803198
Batch ID: AB040312-8
Count Preset (m): 100
Batch Ended: 3/19/04 13:50

Background logfile: BKGABW
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Att[illegible] Calibration
y = b*m^(e^(mass-x0))		y = [illegible] mass-x0))
Alpha b=	0.00000	Beta [illegible] 0.0000
m=	0.00000	m= 0.0000
s=	0.0000	s= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m*b^-mass		y = m*mass + b
a->b xtalk m=	0.0000	b->a xtalk m= 0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
A1	0403062-1	3/19/04 13:50	100.00	0.0	0.080	0.078	0.004	0.2475	n/a	n/a	n/a	1.410	1.339	0.0128	0.4098	n/a	n/a	n/a
A2	0403062-2	3/19/04 13:50	100.00	0.0	0.100	0.171	0.005	0.2460	n/a	n/a	n/a	1.270	1.302	0.0172	0.4097	n/a	n/a	n/a
A3	0403062-3	3/19/04 13:50	100.00	0.0	0.130	0.121	0.005	0.2508	n/a	n/a	n/a	1.530	1.439	0.0229	0.4163	n/a	n/a	n/a
C2	0403062-7	3/19/04 13:50	100.00	0.0	0.110	0.084	0.005	0.2553	n/a	n/a	n/a	1.710	1.682	0.0202	0.4184	n/a	n/a	n/a
C3	0403062-8	3/19/04 13:50	100.00	0.0	0.100	0.124	0.006	0.2524	n/a	n/a	n/a	1.810	1.516	0.0189	0.4154	n/a	n/a	n/a
C4	0403062-9	3/19/04 13:50	100.00	0.0	0.090	0.091	0.002	0.2472	n/a	n/a	n/a	1.490	1.473	0.0145	0.4198	n/a	n/a	n/a
A4	0403062-4	3/19/04 13:50	100.00	0.0	0.150	0.158	0.006	0.2477	n/a	n/a	n/a	1.870	1.427	0.0263	0.4130	n/a	n/a	n/a
D1	0403062-10	3/19/04 13:50	100.00	0.0	0.150	0.089	0.006	0.2489	n/a	n/a	n/a	1.620	1.484	0.0273	0.4157	n/a	n/a	n/a
D2	0403062-11	3/19/04 13:50	100.00	0.0	0.160	0.106	0.006	0.2516	n/a	n/a	n/a	2.300	2.056	0.0286	0.4247	n/a	n/a	n/a
D3	0403062-12	3/19/04 13:50	100.00	0.0	0.100	0.098	0.005	0.2582	n/a	n/a	n/a	1.990	1.815	0.0165	0.4147	n/a	n/a	n/a
D4	0403062-14	3/19/04 13:50	100.00	0.0	0.140	0.100	0.008	0.2554	n/a	n/a	n/a	2.370	1.853	0.0249	0.4303	n/a	n/a	n/a
B3	0403062-5	3/19/04 13:50	100.00	0.0	0.140	0.091	0.003	0.2525	n/a	n/a	n/a	1.460	1.491	0.0265	0.4208	n/a	n/a	n/a
B4	0403062-6	3/19/04 13:50	100.00	0.0	0.210	0.092	0.003	0.2571	n/a	n/a	n/a	1.870	1.585	0.0417	0.4160	n/a	n/a	n/a

001000

S 3/25/04

pg 273587 a
(cont. from pg NA b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

SOP 724 8

Date: 3/19/09

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 1600	A 0.1
2 1200	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB0313W
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line	Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line
1	g		P		g		P		✓	9	g		P		g	g	R	HL	OL
2	g		P		g				✓	10							P		✓
3		g	R	P					✓	11									✓
4			P						✓	12									✓
5			LB						OLB	13			✓						✓
6			P						✓	14		g	R	P					✓
7	✓				✓				✓	15		g	R	P			✓		✓
8	✓		✓		✓		✓		✓	16	✓		P		✓	g	R	P	—

P = passes; R = Recount; H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Checks	NA	NA	EFB0319	30	0856	g	g	3/19/09	NA
3,5,14,15	DR Recount	NA	NA	EFB0319A	30	0905	g	g	3/19/09	
1-16	BKG Checks	NA	NA	BKB0319	60	0914	g	g	3/19/09	
9,16	BKG Recount	NA	NA	BKB0319A	60	1033	g	g	3/19/09	
2	0403088-8	AB0403154	α/B	ABB0319	10	1146	g	g	3/19/09	
3	-23			ABB0319						
4	AB0403155MB	AB0403155		ABB0319A		1197				
1	0403062-1	AB0403128	α/B	ABB0319B	100	1209	g	g	3/19/09	
2	-2									
3	-3									
4	-4									
7	-5									
8	-6									
10	-7									
11	-8									
12	-9									

53/8/14

53/9/14

Form 780r6.frm (4/6/2001)

Reviewed by 77 Date 3-20-09

Comments:

000101

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Date 3-19-04

Instrument: **LB4100B**

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
13	0403062-10	AB040312-6	α/β	ABB03193	106	1209	S	S	3/19/04	NA
14	-11									
15	-12									
16	-14									
1-16	Weekly BKG	NA	NA	BKB03196	1000	1537	S	TZ	3-20-04	

TZ 3-20-04

Form 780r6.frm (4/6/2001)

Reviewed TZ Date 3-20-04

Comments:

000102

PAI - Flow Proportional Sample Analysis LB4100-B

Unit Type: LB4100-B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB80322
Batch ID: AB040312-8
Count Preset (m): 100
Batch Ended: 3/22/04 10:42

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(a*(mass-x0))		Beta Attenuation Calibration y = b*m^(a*(mass-x0))	
Alpha b=	0.00000	b=	0.0000
m=	0.00000	m=	0.0000
a=	0.0000	a=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m*b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a->b xtalk m=	0.0000	b->a xtalk m=	0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
A1	0403062-4D	3/22/04 10:41	100.00	0.0	0.070	0.087	0.005	0.2475	n/a	n/a	n/a	1.680	1.378	0.0112	0.4099	n/a	n/a	n/a
A2	0403062-13	3/22/04 10:41	100.00	0.0	0.150	0.097	0.005	0.2460	n/a	n/a	n/a	1.440	1.278	0.0258	0.4097	n/a	n/a	n/a
A3	0403062-14D	3/22/04 10:41	100.00	0.0	0.130	0.071	0.006	0.2508	n/a	n/a	n/a	1.830	1.338	0.0229	0.4153	n/a	n/a	n/a
C1	0403062-16	3/22/04 10:41	100.00	0.0	0.210	0.128	0.004	0.2568	n/a	n/a	n/a	1.460	1.626	0.0379	0.4201	n/a	n/a	n/a
C2	0403062-17	3/22/04 10:41	100.00	0.0	0.090	0.089	0.005	0.2553	n/a	n/a	n/a	1.850	1.550	0.0165	0.4194	n/a	n/a	n/a
C3	0403062-18	3/22/04 10:41	100.00	0.0	0.190	0.111	0.006	0.2524	n/a	n/a	n/a	1.810	1.527	0.0360	0.4154	n/a	n/a	n/a
C4	0403062-19	3/22/04 10:41	100.00	0.0	0.110	0.073	0.002	0.2472	n/a	n/a	n/a	1.740	1.509	0.0199	0.4199	n/a	n/a	n/a
B3	0403062-15	3/22/04 10:42	100.00	0.0	0.120	0.081	0.002	0.2525	n/a	n/a	n/a	1.380	1.441	0.0227	0.4208	n/a	n/a	n/a
D1	0403062-20	3/22/04 10:42	100.00	0.0	0.170	0.127	0.007	0.2489	n/a	n/a	n/a	1.910	1.547	0.0309	0.4157	n/a	n/a	n/a
D2	AB040312-8MB	3/22/04 10:42	100.00	0.0	0.140	0.130	0.006	0.2516	n/a	n/a	n/a	2.130	2.103	0.0250	0.4247	n/a	n/a	n/a

S 3/25/04

000103

PAI - Gas Flow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB80322A
Batch ID: AB040312-8
Count Preset (m): 10
Batch Ended: 3/22/04 9:13

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Attenuation Calibration	
y = b*m^(e^(mass-x0))		y = b*m^(e^(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
e=	0.0000	e=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk	
y = m*b^-mass		y = m*mass + b	
a -> b xtalk m=	0.0000	b -> a xtalk m=	0.00E+00
a -> b xtalk b=	0.0000	b -> a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
D3	AB040312-8ALCS	3/22/04 9:13	10.00	0.0	2842.600	0.104	1.362	0.2582	n/a	n/a	n/a	574.800	1.715	469.5904	0.4147	n/a	n/a	n/a
D4	AB040312-8BLCS	3/22/04 9:13	10.00	0.0	30.000	0.117	55.327	0.2554	n/a	n/a	n/a	17360.500	1.841	5.3347	0.4303	n/a	n/a	n/a

000104

83/25 h+

PAI - G[illegible] Flow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB803228
Batch ID: AB040312-8
Count Preset (m): 100
Batch Ended: 3/22/04 12:32

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Att[illegible] Calibration
y = b*m^(x*(mass-x0))		y [illegible] (mass-x0))
Alpha b=	0.00000	Beta b= 0.0000
m=	0.00000	m= 0.0000
x=	0.0000	x= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m*b^-mass		y = m*mass + b
a -> b xtalk m=	0.0000	b -> a xtalk m= 0.00E+00
a -> b xtalk b=	0.0000	b -> a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
A1	0403062-21	3/22/04 12:32	100.00	0.0	0.110	0.087	0.005	0.2476	n/a	n/a	n/a	1.650	1.378	0.0177	0.4098	n/a	n/a	n/a
A2	0403062-22	3/22/04 12:32	100.00	0.0	0.180	0.097	0.005	0.2460	n/a	n/a	n/a	1.480	1.276	0.0309	0.4097	n/a	n/a	n/a
A3	0403062-23	3/22/04 12:32	100.00	0.0	0.070	0.071	0.005	0.2508	n/a	n/a	n/a	1.360	1.338	0.0123	0.4153	n/a	n/a	n/a
A4	0403062-24	3/22/04 12:32	100.00	0.0	0.160	0.102	0.005	0.2477	n/a	n/a	n/a	1.630	1.355	0.0281	0.4130	n/a	n/a	n/a
C1	0403062-26	3/22/04 12:32	100.00	0.0	0.170	0.128	0.005	0.2568	n/a	n/a	n/a	1.840	1.626	0.0306	0.4201	n/a	n/a	n/a
C2	0403062-27	3/22/04 12:32	100.00	0.0	0.110	0.089	0.005	0.2553	n/a	n/a	n/a	1.780	1.550	0.0202	0.4184	n/a	n/a	n/a
C3	0403062-28	3/22/04 12:32	100.00	0.0	0.130	0.111	0.007	0.2524	n/a	n/a	n/a	1.860	1.527	0.0246	0.4154	n/a	n/a	n/a
C4	0403062-29	3/22/04 12:32	100.00	0.0	0.120	0.073	0.002	0.2472	n/a	n/a	n/a	1.650	1.509	0.0217	0.4198	n/a	n/a	n/a
D1	0403062-30	3/22/04 12:32	100.00	0.0	0.080	0.127	0.007	0.2489	n/a	n/a	n/a	1.890	1.547	0.0145	0.4167	n/a	n/a	n/a
B3	0403062-25	3/22/04 12:32	100.00	0.0	0.110	0.081	0.003	0.2525	n/a	n/a	n/a	1.820	1.441	0.0208	0.4208	n/a	n/a	n/a
D2	0403062-31	3/22/04 12:32	100.00	0.0	0.170	0.130	0.006	0.2518	n/a	n/a	n/a	2.270	2.103	0.0304	0.4247	n/a	n/a	n/a
D3	0403062-32	3/22/04 12:32	100.00	0.0	0.090	0.104	0.004	0.2582	n/a	n/a	n/a	1.790	1.715	0.0149	0.4147	n/a	n/a	n/a
D4	0403062-36	3/22/04 12:32	100.00	0.0	0.090	0.117	0.006	0.2554	n/a	n/a	n/a	1.800	1.941	0.0160	0.4303	n/a	n/a	n/a

000105

S 3/25/04

PAI - Gas Flow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB80322C
Batch ID: AB040312-0
Count Preset (m): 100
Batch Ended: 3/22/04 14:26

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Attenuation Calibration	
y = b*m^(a*(mass-x0))		y = b*m^(a*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
a=	0.0000	a=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk	
y = m *b^-mass		y = m*mass + b	
a->b xtalk m=	0.0000	b->a xtalk m=	0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
A1	0403062-25D	3/22/04 14:26	100.00	0.0	0.140	0.087	0.004	0.2475	n/a	n/a	n/a	1.470	1.378	0.0225	0.4098	n/a	n/a	n/a
A2	0403062-33	3/22/04 14:26	100.00	0.0	0.060	0.097	0.006	0.2460	n/a	n/a	n/a	1.640	1.276	0.0103	0.4097	n/a	n/a	n/a
A3	0403062-34	3/22/04 14:26	100.00	0.0	0.090	0.071	0.005	0.2508	n/a	n/a	n/a	1.490	1.338	0.0169	0.4153	n/a	n/a	n/a
A4	0403062-35	3/22/04 14:26	100.00	0.0	0.100	0.102	0.006	0.2477	n/a	n/a	n/a	1.420	1.355	0.0175	0.4130	n/a	n/a	n/a
C1	0403062-37	3/22/04 14:26	100.00	0.0	0.190	0.128	0.006	0.2568	n/a	n/a	n/a	2.020	1.626	0.0343	0.4201	n/a	n/a	n/a
C2	0403062-38	3/22/04 14:26	100.00	0.0	0.120	0.088	0.005	0.2553	n/a	n/a	n/a	1.740	1.550	0.0220	0.4194	n/a	n/a	n/a
C3	0403062-39	3/22/04 14:26	100.00	0.0	0.150	0.111	0.006	0.2524	n/a	n/a	n/a	1.800	1.527	0.0284	0.4154	n/a	n/a	n/a
C4	0403062-40	3/22/04 14:26	100.00	0.0	0.100	0.073	0.002	0.2472	n/a	n/a	n/a	1.760	1.509	0.0181	0.4198	n/a	n/a	n/a
B3	0403062-36D	3/22/04 14:26	100.00	0.0	0.130	0.081	0.003	0.2525	n/a	n/a	n/a	1.640	1.441	0.0246	0.4208	n/a	n/a	n/a
D1	AB040312-9MB	3/22/04 14:26	100.00	0.0	0.080	0.127	0.005	0.2489	n/a	n/a	n/a	1.540	1.547	0.0145	0.4157	n/a	n/a	n/a

000106

9 3/25/04

PAI - G[illegible]ow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB80322D
Batch ID: AB040312-8
Count Preset (m): 10
Batch Ended: 3/22/04 12:59

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Att[illegible] [illegible]alibration
y = b*m^(x*(mass-x0))		y = [illegible] (mass-x0))
Alpha b=	0.00000	Be[illegible] 0.0000
m=	0.00000	m= 0.0000
s=	0.0000	s= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m *b^-mass		y = m*mass + b
a->b xtalk m=	0.0000	b->a xtalk m= 0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
D2	AB040312-8ALCS	3/22/04 12:59	10.00	0.0	2826.300	0.130	1.770	0.2516	n/a	n/a	n/a	659.300	2.103	605.2645	0.4247	n/a	n/a	n/a
D3	AB040312-8BLCS	3/22/04 12:59	10.00	0.0	28.300	0.104	41.167	0.2582	n/a	n/a	n/a	17377.400	1.715	4.6751	0.4147	n/a	n/a	n/a

S 3/25/04

000107

pg 073589 a
(cont. from pg NA b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

SOP 724 8

Date: 3/22/04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 600	A
2 606	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB0319W
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line	Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line
1	G		P		G		P		✓	9	G		P		G		P		✓
2	P				G				✓	10									✓
3							✓		✓	11									✓
4			✓			G	R	P	✓	12									✓
5			LB				P		OLB	13									✓
6			LB						OLB	14									✓
7			P				✓		✓	15									✓
8	✓		✓		✓	G	R	H	OLH	16	✓		✓		✓		✓		✓

P = passes; R = Recount; H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Check	NA	NA	BKB0322	30	0733	~~0733~~ 03/22/04		3/22/04	NA
1-16	BKG Check	NA	NA	BKB0322	60	0747			3/22/04	
4, 8	BKG Recount	NA	NA	BKB0322A	60	0900			3/22/04	
1	0403062-4D	AB040312-8	LB	ABB0322	100	0901			3/22/04	
2	-13									
3	-14D									
7	-15									
9	-16									
10	-17									
11	-18									
12	-19									
13	-20									
14	AB040312-8MB									
15	-8ALS			ABB0322A	10	0902			3/22/04	
16	-8BLS									

3/18/04

Form 780r6.frm (4/6/2001)

Reviewed by TT Date 3.22.04

Comments:

000108

Date: 3/22/04

LAB 3/26/04

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date.	Cmnt Below
1	0403062-21	AB040312-9	α/β	ABB0322B	100	1057	S	TZ	3-22-04	NA
2	-22									
3	-23									
4	-24									
7	-25									
9	-26									
10	-27									
11	-28									
12	-29									
13	-30									
14	-31									
15	-32									
16	-36									
1	-36D			ABB0322C	100	12:46	TZ			
2	-33									
3	-34									
4	-35									
7	-36D									
9	-37									
10	-38									
11	-39									
12	-40									
TZ 3-22-04 13	AB040312-9MB									
14	-9ALCS			ABB0322D	10	12:49	TZ		3/22/04	
15	-9BLCS									
1	0403140-2	AB040322-2	α/β	ABB0322E	10	1440	S	S	3/22/04	
2	-3									
3	-4									
4	-5									
7	-6									

Form 780r6.frm (4/6/2001)

Reviewed TZ Date 3-22-04

Comments:

000109

PAI - (low Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: ABB0323A
Batch ID: AB040312-10
Count Preset (m): 100
Batch Ended: 3/23/04 11:58

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Attenuation Calibration
y = b*m^(e*(mass-x0))		y = b*m^(e*(mass-x0))
Alpha b=	0.00000	Beta b= 0.0000
m=	0.00000	m= 0.0000
e=	0.0000	e= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m*b^-mass		y = m*mass + b
a->b xtalk m=	0.0000	b->a xtalk m= 0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
C1	0403062-48	3/23/04 11:57	100.00	0.0	0.190	0.128	0.005	0.2569	n/a	n/a	n/a	1.790	1.626	0.0343	0.4201	n/a	n/a	n/a
B3	0403062-50	3/23/04 11:57	100.00	0.0	0.110	0.081	0.003	0.2525	n/a	n/a	n/a	1.650	1.441	0.0208	0.4208	n/a	n/a	n/a
C2	0403062-47	3/23/04 11:57	100.00	0.0	0.180	0.089	0.005	0.2553	n/a	n/a	n/a	1.870	1.550	0.0294	0.4194	n/a	n/a	n/a
C3	0403062-46	3/23/04 11:57	100.00	0.0	0.250	0.111	0.006	0.2524	n/a	n/a	n/a	1.790	1.527	0.0473	0.4154	n/a	n/a	n/a
C4	0403062-45	3/23/04 11:57	100.00	0.0	0.180	0.073	0.002	0.2472	n/a	n/a	n/a	1.560	1.509	0.0326	0.4198	n/a	n/a	n/a
B4	0403062-49	3/23/04 11:57	100.00	0.0	0.170	0.107	0.003	0.2571	n/a	n/a	n/a	1.580	1.537	0.0337	0.4160	n/a	n/a	n/a
D1	0403062-44	3/23/04 11:57	100.00	0.0	0.090	0.127	0.006	0.2489	n/a	n/a	n/a	1.590	1.547	0.0164	0.4157	n/a	n/a	n/a
D2	0403062-43	3/23/04 11:57	100.00	0.0	0.120	0.130	0.006	0.2616	n/a	n/a	n/a	2.310	2.103	0.0215	0.4247	n/a	n/a	n/a
+ D3	0403062-42	3/23/04 11:57	100.00	0.0	0.190	0.104	0.006	0.2582	n/a	n/a	n/a	2.370	1.715	0.0314	0.4147	n/a	n/a	n/a
D4	0403062-41	3/23/04 11:57	100.00	0.0	0.130	0.117	0.007	0.2554	n/a	n/a	n/a	2.350	1.841	0.0231	0.4303	n/a	n/a	n/a
A4	AB040312-10MB	3/23/04 11:58	100.00	0.0	0.070	0.102	0.005	0.2477	n/a	n/a	n/a	1.560	1.355	0.0123	0.4130	n/a	n/a	n/a

+ Recounted in File ABB0325A - g 3/25/04
Det 15 offline on 3/24.

000110

g 3/25/04

PAI - Gas Flow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB80323B
Batch ID: AB040312-10
Count Preset (m): 10
Batch Ended: 3/23/04 10:29

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Attenuation Calibration	
y = b*m^(a*(mass-x0))		y = b*m^(a*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
a=	0.0000	a=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk	
y = m*b^-mass		y = m*mass + b	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.00E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
A2	AB040312-10ALCS	3/23/04 10:29	10.00	0.0	2768.000	0.097	2.113	0.2460	n/a	n/a	n/a	595.200	1.276	475.5688	0.4097	n/a	n/a	n/a
A3	AB040312-10BLCS	3/23/04 10:29	10.00	0.0	28.200	0.071	57.833	0.2508	n/a	n/a	n/a	17255.500	1.338	4.9680	0.4153	n/a	n/a	n/a

000111

8 3/2

PAI - G ow Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: ABB0323E
Batch ID: AB040312-10
Count Preset (m): 100
Batch Ended: 3/23/04 13:51

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Atte alibration
y = b*m^(a*(mass-x0))		y = mass-x0))
Alpha b=	0.00000	Beta b= 0.0000
m=	0.0000	m= 0.0000
a=	0.0000	a= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m *b^mass		y = m*mass + b
a -> b xtalk m=	0.0000	b -> a xtalk m= 0.00E+00
a -> b xtalk b=	0.0000	b -> a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
A1	0403062-45D	3/23/04 13:51	100.00	0.0	0.120	0.087	0.005	0.2475	n/a	n/a	n/a	1.610	1.378	0.0193	0.4099	n/a	n/a	n/a

000112

3/25/04

pg 215591 a
(cont. from pg N/A b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

SOP 724 R 3

Date: 3/23/04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1600	A 0.1
2450	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB03 AW
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line	Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line
1	LCB		P		LCB		P		✓	9	LCB		P		LCB		P		✓
2									✓	10									✓
3									✓	11									✓
4									✓	12									✓
5			LB						OLB	13									✓
6			LB						OLB	14									✓
7			P						✓	15									✓
8									✓	16									✓

P = passes; R = Recount; H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Checks	–	–	EFB0323	30	0845	LCB	LCB	3/23/04	N/A
1-16	Bkg Checks	–	–	BKB0323	60	0857	LCB	LCB	3/23/04	
1	AB040317-LCSD	AB040317-1	AB	ABB0323	60	10:07	TT	TT	3-23-04	
16	0403062-41	AB040312-10	AB	ABB0323A	100	10:17	TT			
15	-42									
14	-43									
13	-44									
12	-45									
11	-46									
10	-47									
9	-48									
8	-49									
7	-50									
4	AB040317-04B									
2	-10ALCS			ABB0323B	10	10:19	TT	TT	3-23-04	
3	-10BLCS									

Form 780r6.frm (4/6/2001)

Reviewed by TT Date 3-23-04

Comments:

000113

Low Background Gas Flow Proportional Counter Log

Instrument: LB4100B

Date = 3/23/04

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1	0403119-1	AB040319-3	AB	ABB0323C	10	1125	77	77	3-23-04	NA
2	-2									
3	AB040319-3ACS									
3	0403119-1D			ABB0323D	10	1138	77			
2	AB040319-3BCS									
1	-3MB									
1	0403062-45D	AB040312-10	AB	ABB0323E	100	1211	77	77	3-23-04	
2	0403092-6	AB040316-1	AB	ABB0323F	120	1209	77			
3	-6D									
4	-6MS									
7	AB040316-1MB									
8	-1LCS									
9	0403061-41	AB040312-4	AB	ABB0323G	100	1212	77			
10	-42									
11	-43									
12	-44									
13	0403085-1	AB040312-5	AB	ABB0323H	100	1213	77			
14	-2									
15	-3									
16	-7									
1	-4			ABB0323I	100	1417	77	77	3-23-04	
2	-5									
3	-6									
4	-7D									
7	-8									
8	-9									
9	-10									
10	-11									
11	-12									
12	-13									

Form 780r6.frm (4/6/2001)

Reviewed 77 Date 3-23-04

Comments:

00114

PAI - G low Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: ABB0325A
Batch ID: ABB040312-10
Count Preset (m): 100
Batch Ended: 3/25/04 10:13

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Att alibration
y = b*m^(e^(mass-x0))		y = ass-x0))
Alpha b=	0.00000	Beta b= 0.0000
m=	0.00000	m= 0.0000
e=	0.0000	e= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m*b^-mass		y = m*mass + b
a->b xtalk m=	0.0000	b->a xtalk m= 0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
A2	0403062-42	3/25/04 10:13	100.00	0.0	0.170	0.097	0.006	0.2460	n/a	n/a	n/a	1.670	1.276	0.0292	0.4097	n/a	n/a	n/a

000115

S 3/25/04

pg 273594 a

(cont. from pg N/A b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

SOP 724 8

Date: 3/25/04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1600	A 0.1
21800	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB0319W
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line	Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line
1	LCB		P		LCB		P		✓	9	LCB		P		LCB		P		✓
2									✓	10									✓
3									✓	11						LCB	R	P	✓
4									✓	12							R	P	✓
5			OLB				BLB		OLB	13							P		✓
6			OLB				BLB		OLB	14									✓
7			P				P		✓	15		LCB	R			LCB	R	HB	OLB
8						LCB	R	P	✓	16			P				P		✓

P = passes; R = Recount; H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Checks	N/A	N/A	EFB0325	30	0621	LCB	LCB	3/25/04	N/A
15	DR Recount	N/A	N/A	EFB0325A	30	0642	LCB	LCB	3/25/04	
1-16	Bkg Checks	N/A	N/A	BKB0325	60	0653	LCB	LCB	3/25/04	
8,11,12,15	Bkg Recount	N/A	N/A	BKB0325A	60	0817	LCB		3/25/04	
1	AB040318-1LCS	AB040318-1	α/β	ABB0325	60	0829	LCB	[illegible]	3-25-04	[illegible] 3.25.04
2	0403062-42	AB040312-10	α/β	ABB0325A	100	0830	LCB			NA
1	0403140-2	AB040322-4	AB	ABB0325B	10	1018	[illegible]	[illegible]	3-25-04	
2	-3									
3	-4									
4	-5									
7	-6									
8	-7									
9	-8									
10	-10									
11	-11									
12	-12									

Form 780r6.frm (4/6/2001)

Reviewed by [illegible] Date 3-25-04

Comments:

000116

PARAGON ANALYTICS
Radiochemistry Data Package

Section 5

QUALITY ASSURANCE SUMMARY REPORTS

5

000117

No *NON-CONFORMANCE REPORTS* or
QUALITY ASSURANCE SUMMARY SHEETS
are included in this data package.

PARAGON ANALYTICS
Radiochemistry Data Package

Section 6

LABORATORY BENCH SHEETS

6

Radiochemistry Instrument Worksheet

Paragon Analytics

Prep Batch: AB040

Prep Procedure: GAB_No_Att

Analytical QASS / NCR? Y / (N) NA

Prep Num	LabID	QC Type	Init Alq	Fin Alq	Units	Residual Mass (mg)	Cnt 1 File	Cnt 1 Inst/Det	Cnt 1 Pos Chk By	Cnt 2 File	Cnt 2 Inst/Det	Cnt 2 Pos Chk By	Cnt 3 File	Cnt 3 Inst/Det	Cnt 3 Pos Chk By	Notes
1	0403062-1	SMP	1	1	sample		ABB0319B	1	SJ							
1	0403062-2	SMP	1	1	sample			2								
1	0403062-3	SMP	1	1	sample			3								
1	0403062-4	SMP	1	1	sample			4								
1	0403062-4	DUP	1	1	sample		ABB0322	17	SJ							53/22/07
1	0403062-5	SMP	1	1	sample		ABB0319B	7 8	SJ							
1	0403062-6	SMP	1	1	sample			8 10								
1	0403062-7	SMP	1	1	sample			10 11								
1	0403062-8	SMP	1	1	sample			11 12								
1	0403062-9	SMP	1	1	sample			12 13								
1	0403062-10	SMP	1	1	sample			13 14								
1	0403062-11	SMP	1	1	sample			14 15								
1	0403062-12	SMP	1	1	sample			15 16								
1	0403062-13	SMP	1	1	sample		ABB0322	2	SJ							
1	0403062-14	SMP	1	1	sample		ABB0319B	16	SJ							
1	0403062-14	DUP	1	1	sample		ABB0322	3	SJ							
1	0403062-15	SMP	1	1	sample			7								
1	0403062-16	SMP	1	1	sample			9								
1	0403062-17	SMP	1	1	sample			10								
1	0403062-18	SMP	1	1	sample			11								
1	0403062-19	SMP	1	1	sample			12								
1	0403062-20	SMP	1	1	sample			13								
1	AB040312-8A	LCS	1	1	sample		ABB0322A	15	SJ							
1	AB040312-8B	LCS	1	1	sample			16								
1	AB040312-8	MB	1	1	sample		ABB0322	14	SJ							53/05/07

03/19/04

GAB_No_Att Instrument Sheet

Date Printed: 3/15/04 12:00

Paragon Analytics

LIMS Version: 4.342C

Supersedes: NA

Radiochemistry Instrument Worksheet

Paragon Analytics

Prep Batch: AB0403128

Prep Procedure: GAB_No_Att

Analytical QASS / NCR? Y / N NA

Prep Num	LabID	QC Type	Init Alq	Fin Alq	Units	Residual Mass (mg)	Cnt 1 File	Cnt 1 Inst/Det	Cnt 1 Pos Chk By	Cnt 2 File	Cnt 2 Inst/Det	Cnt 2 Pos Chk By	Cnt 3 File	Cnt 3 Inst/Det	Cnt 3 Pos Chk By	Notes

Spike Solution Information

Soln #	Nuclide	SolnID	Prep Conc	Units	Prep Date	Aliquot	Units	Pipet ID
S1	Am-241	601	9,947.565	DPM/sample	03/12/04	1	sample	
S2	Sr-90	729	20,504.889	DPM/sample	03/12/04	1	sample	

000012

Radiochemistry Pr Worksheet

Paragon Analytics

Prep Batch: AB040

Prep Procedure: GAB_No_Att

Reviewed By: ATF

Review Date: 3/15/04

Non-Routine Pre-Treatment? Y (N) Batch: _____ Re-Prep? Y / (N) Batch: _____ Prep QASS / NCR? Y / (N) _____

Prep SOP: PAI 702 Rev: 16
Prep SOP: NONE
Matrix Class: solid

Prep Analyst: Joanne Cucinotta
Prep Date: 3/12/04
Prep Dept: RS

Balance:
Balance:

Samp Num	Prep Num	LabID	QC Type	Dish No.	Init Alq sample	Fin Alq sample	Prep Basis	Standards	Prep Notes
1	1	0403062-1	SMP		1	1	As Received		
2	1	0403062-2	SMP		1	1	As Received		
3	1	0403062-3	SMP		1	1	As Received		
4	1	0403062-4	SMP		1	1	As Received		
5	1	0403062-4	DUP		1	1	As Received		COUNT DUPLICATE
6	1	0403062-5	SMP		1	1	As Received		
7	1	0403062-6	SMP		1	1	As Received		
8	1	0403062-7	SMP		1	1	As Received		
9	1	0403062-8	SMP		1	1	As Received		
10	1	0403062-9	SMP		1	1	As Received		
11	1	0403062-10	SMP		1	1	As Received		
12	1	0403062-11	SMP		1	1	As Received		
13	1	0403062-12	SMP		1	1	As Received		
14	1	0403062-13	SMP		1	1	As Received		
15	1	0403062-14	SMP		1	1	As Received		
16	1	0403062-14	DUP		1	1	As Received		COUNT DUPLICATE
17	1	0403062-15	SMP		1	1	As Received		
18	1	0403062-16	SMP		1	1	As Received		
19	1	0403062-17	SMP		1	1	As Received		
20	1	0403062-18	SMP		1	1	As Received		
21	1	0403062-19	SMP		1	1	As Received		
22	1	0403062-20	SMP		1	1	As Received		
23	1	AB040312-8A	LCS		1	1	As Received	S1	ALPHA SOURCE
24	1	AB040312-8B	LCS		1	1	As Received	S2	BETA SOURCE
25	1	AB040312-8	MB		1	1	As Received		

03/15/04

Spiked By: N/A Date: N/A

Witnessed By: N/A Date: N/A

Relinquished By: _____
Date: 03/15/04

Received By: _____
Date: 3/16/04

Spike Soln Information

Soln #	Nuclide	SolnID	Prep Conc	Units	Prep Date	Aliquot	Units	Pipet ID
S1	Am-241	601	9,947.565	DPM/sample	03/12/04	1	sample	
S2	Sr-90	729	20,504.889	DPM/sample	03/12/04	1	sample	

Comments

Paragon Analytics
LIMS Version: 4.342C

Supersedes: _____

Radiochemistry Instrument Worksheet

Paragon Analytics

Prep Batch: AB040312-9

Prep Procedure: GAB_No_Att

Analytical QASS / NCR? Y / N NA

Prep Num	LabID	QC Type	Init Alq	Fin Alq	Units	Residual Mass (mg)	Cnt 1 File	Cnt 1 Inst/Det	Cnt 1 Pos Chk By	Cnt 2 File	Cnt 2 Inst/Det	Cnt 2 Pos Chk By	Cnt 3 File	Cnt 3 Inst/Det	Cnt 3 Pos Chk By	Notes
1	0403062-21	SMP	1	1	sample		ABB0322B	1	7/7							
1	0403062-22	SMP	1	1	sample			2								
1	0403062-23	SMP	1	1	sample			3								
1	0403062-24	SMP	1	1	sample			4								
1	0403062-25	SMP	1	1	sample			7								
1	0403062-26	SMP	1	1	sample			9								
1	0403062-26	DUP	1	1	sample		ABB0322C	1								
1	0403062-27	SMP	1	1	sample		ABB0322B	10								
1	0403062-28	SMP	1	1	sample			11								
1	0403062-29	SMP	1	1	sample			12								
1	0403062-30	SMP	1	1	sample			13								
1	0403062-31	SMP	1	1	sample			14								
1	0403062-32	SMP	1	1	sample			15								
1	0403062-33	SMP	1	1	sample		ABB0322C	2								
1	0403062-34	SMP	1	1	sample			3								
1	0403062-35	SMP	1	1	sample			4								
1	0403062-36	SMP	1	1	sample		ABB0322B	16								
1	0403062-36	DUP	1	1	sample		ABB0322C	7								
1	0403062-37	SMP	1	1	sample			9								
1	0403062-38	SMP	1	1	sample			10								
1	0403062-39	SMP	1	1	sample			11								
1	0403062-40	SMP	1	1	sample			12								
1	AB040312-9A	LCS	1	1	sample		ABB0322D	14	gf							
1	AB040312-9B	LCS	1	1	sample			15	gf							
1	AB040312-9	MB	1	1	sample		ABB0322C	13	gf							

3/25/12

000128

Radiochemistry Instrument Worksheet

Paragon Analytics

Prep Batch: AB0403

Prep Procedure: GAB_No_Att

Analytical QASS / NCR? Y / (N) NA

Prep Num	LabID	QC Type	Init Alq	Fin Alq	Units	Residual Mass (mg)	Cnt 1 File	Cnt 1 Inst/Det	Cnt 1 Pos Chk By	Cnt 2 File	Cnt 2 Inst/Det	Cnt 2 Pos Chk By	Cnt 3 File	Cnt 3 Inst/Det	Cnt 3 Pos Chk By	Notes

Spike Solution Information

Soln #	Nuclide	SolnID	Prep Conc	Units	Prep Date	Aliquot	Units	Pipet ID
S1	Am-241	601	9,947.565	DPM/sample	03/12/04	1	sample	
S2	Sr-90	729	20,504.884	DPM/sample	03/12/04	1	sample	

000127

Supersedes: NA

Radiochemistry Prep Worksheet

Paragon Analytics

Prep Batch: AB040312-9

Prep Procedure: GAB_No_Att

Reviewed By: ATF

Review Date: 3/15/04

Non-Routine Pre-Treatment? Y / N Batch: _____ Re-Prep? Y / N Batch: _____ Prep QASS / NCR? Y / N _____

Prep SOP: PAI 702 Rev: 16
Prep SOP: NONE
Matrix Class: solid

Prep Analyst: Joanne Cucinotta JC
Prep Date: 3/12/04
Prep Dept: RS

Balance:
Balance:

Samp Num	Prep Num	LabID	QC Type	Dish No.	Init Alq sample	Fin Alq sample	Prep Basis	Standards	Prep Notes
1	1	0403062-21	SMP		1	1	As Received		
2	1	0403062-22	SMP		1	1	As Received		
3	1	0403062-23	SMP		1	1	As Received		
4	1	0403062-24	SMP		1	1	As Received		
5	1	0403062-25	SMP		1	1	As Received		
6	1	0403062-26	SMP		1	1	As Received		
7	1	0403062-26	DUP		1	1	As Received		COUNT DUPLICATE
8	1	0403062-27	SMP		1	1	As Received		
9	1	0403062-28	SMP		1	1	As Received		
10	1	0403062-29	SMP		1	1	As Received		
11	1	0403062-30	SMP		1	1	As Received		
12	1	0403062-31	SMP		1	1	As Received		
13	1	0403062-32	SMP		1	1	As Received		
14	1	0403062-33	SMP		1	1	As Received		
15	1	0403062-34	SMP		1	1	As Received		
16	1	0403062-35	SMP		1	1	As Received		
17	1	0403062-36	SMP		1	1	As Received		
18	1	0403062-36	DUP		1	1	As Received		COUNT DUPLICATE
19	1	0403062-37	SMP		1	1	As Received		
20	1	0403062-38	SMP		1	1	As Received		
21	1	0403062-39	SMP		1	1	As Received		
22	1	0403062-40	SMP		1	1	As Received		
23	1	AB040312-9A	LCS		1	1	As Received	S1	ALPHA SOURCE
24	1	AB040312-9B	LCS		1	1	As Received	S2	BETA SOURCE
25	1	AB040312-9	MB		1	1	As Received		

Spiked By: N/A Date: N/A

Witnessed By: N/A Date: N/A

Relinquished By: _____
Date: 03/15/04
Received By: _____
Date: 3/16/04

Spike Solution Information

Soln #	Nuclide	SolnID	Prep Conc	Units	Prep Date	Aliquot	Units	Pipet ID
S1	Am-241	601	9,947.565	DPM/sample	03/12/04	1	sample	
S2	Sr-90	729	20,504.884	DPM/sample	03/12/04	1	sample	

Comments

Paragon Analytics

Radiochemistry Instrument Worksheet

Prep Batch: AB040[illegible]

Prep Procedure: GAB_No_Att

Analytical QASS / NCR? Y / N — NA

Prep Num	LabID	QC Type	Init Alq	Fin Alq	Units	Residual Mass (mg)	Cnt 1 File	Cnt 1 Inst/Det	Cnt 1 Pos Chk By	Cnt 2 File	Cnt 2 Inst/Det	Cnt 2 Pos Chk By	Cnt 3 File	Cnt 3 Inst/Det	Cnt 3 Pos Chk By	Notes
1	0403062-41	SMP	1	1	sample		ABB0323A	16	77							
1	0403062-42	SMP	1	1	sample			15		*ABB0325A	2 LCS 3/25/04	77				
1	0403062-43	SMP	1	1	sample			14								
1	0403062-44	SMP	1	1	sample			13								
1	0403062-45	SMP	1	1	sample			12								
1	0403062-45	DUP	1	1	sample		ABB0323E	1	77							Cnt Dup
1	0403062-46	SMP	1	1	sample		ABB0323A	11	77							
1	0403062-47	SMP	1	1	sample			10								
1	0403062-48	SMP	1	1	sample			9								
1	0403062-49	SMP	1	1	sample			72 3-23-04 ~~8~~								
1	0403062-50	SMP	1	1	sample			~~47~~								
1	AB040312-10A	LCS	1	1	sample		ABB0323B	2	77							
1	AB040312-10B	LCS	1	1	sample			3								
1	AB040312-10	MB	1	1	sample		ABB0323A	~~34~~ 72 3-23-04	77							

*Recount - Det 15 RPlne 3/24. 72 3.24.04

3/25/04

Spike Solution Information

Soln #	Nuclide	SolnID	Prep Conc	Units	Prep Date	Aliquot	Units	Pipet ID
S1	Am-241	601	9,947.565	DPM/sample	03/12/04	1	sample	
S2	Sr-90	729	20,504.881	DPM/sample	03/12/04	1	sample	

000126

Supersedes: MB

Radiochemistry Prep Worksheet

Paragon Analytics

Prep Batch: AB040312-10

Prep Procedure: GAB_No_Att

Reviewed By: ATF

Review Date: 3/15/04

Non-Routine Pre-Treatment? Y / (N) Batch: _____ Re-Prep? Y / (N) Batch: _____ Prep QASS / NCR? Y / (N) _____

Prep SOP: PAI 702 Rev: 16
Prep SOP: NONE
Matrix Class: solid

Prep Analyst: Joanne Cucinotta JC
Prep Date: 3/12/04
Prep Dept: RS

Balance:
Balance:

Samp Num	Prep Num	LabID	QC Type	Dish No.	Init Alq sample	Fin Alq sample	Prep Basis	Standards	Prep Notes
1	1	0403062-41	SMP		1	1	As Received		
2	1	0403062-42	SMP		1	1	As Received		
3	1	0403062-43	SMP		1	1	As Received		
4	1	0403062-44	SMP		1	1	As Received		
5	1	0403062-45	SMP		1	1	As Received		
6	1	0403062-45	DUP		1	1	As Received		COUNT DUPLICATE
7	1	0403062-46	SMP		1	1	As Received		
8	1	0403062-47	SMP		1	1	As Received		
9	1	0403062-48	SMP		1	1	As Received		
10	1	0403062-49	SMP		1	1	As Received		
11	1	0403062-50	SMP		1	1	As Received		
12	1	AB040312-10A	LCS		1	1	As Received	S1	ALPHA SOURCE
13	1	AB040312-10B	LCS		1	1	As Received	S2	BETA SOURCE
14	1	AB040312-10	MB		1	1	As Received		

03/15/04

Spiked By: N/A Date: N/A

Witnessed By: N/A Date: N/A

Relinquished By: _____
Date: 03/15/04
Received By: _____
Date: 3/16/04

Spike Solution Information

Soln #	Nuclide	SolnID	Prep Conc	Units	Prep Date	Aliquot	Units	Pipet ID
S1	Am-241	601	9,947.565	DPM/sample	03/12/04	1	sample	
S2	Sr-90	729	20,504.881	DPM/sample	03/12/04	1	sample	

Comments

000127 1000

SAMPLE CONDITION FORM (SOLIDS)

ANALYST: JC

ANALYSIS DATE: 3/12/04 METHOD: GRP

WORK ORDER	SAMPLE ID	SAMPLE CONDITION		
		Dry/Wet	TEXTURE	Remarks
0403062	1-10	Dry(AR)	Stripe	none
↓	11-20	↓	↓	↓

JC 3/12/04

000128

SAMPLE CONDITION FORM (SOLIDS)

ANALYST: JC

ANALYSIS DATE: 3/12/04 METHOD: G&B

WORK ORDER	SAMPLE ID	SAMPLE CONDITION		
		Dry/Wet	TEXTURE	Remarks
0403062	21-30	Dry(AR)	swipe	none
↓	31-40	↓	↓	↓

JC 3/12/04

SAMPLE CONDITION FORM (SOLIDS)

ANALYST: JC

ANALYSIS DATE: 3/12/04 METHOD: GαB

WORK ORDER	SAMPLE ID	SAMPLE CONDITION		
		Dry/Wet	TEXTURE	Remarks
0403062	4145	Dry (AR)	Swipe	None
↓	4650	↓	↓	↓

JC 3/12/04

000130

PARAGON ANALYTICS
Radiochemistry Data Package

Section 7

STANDARDS TRACEABILITY DOCUMENTS

7

ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 · U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

PAI-00601
rec'd 12-05-01

62752A-307

Am-241 47 mm Diameter Membrane Filter in Stainless Steel Planchet

This standard radionuclide source was prepared gravimetrically from a calibrated master liquid radionuclide solution source. The master source was calibrated by liquid scintillation counting. The calibration was checked by alpha counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Am-241
ACTIVITY (dps):	166.4
HALF-LIFE:	4.322 E2 years
CALIBRATION DATE:	December 1, 2001 12:00 EST
TOTAL UNCERTAINTY*:	5.0%
SYSTEMATIC:	4.7%
RANDOM:	0.3%

*99% Confidence Level

Impurities: γ-impurities <0.1%

Diameter of active area: 43 mm. Low smooth bottom planchet. Source covering 0.5 mg/cm^2 mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

P O NUMBER 001703, Item 2

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED: M. Mt 12-4-01

ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 • U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

PAT ID 0729
rec'd 10-30-03

66949-307

Sr-90 47 mm Diameter Membrane Filter in Stainless Steel Planchet

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Sr-90
ACTIVITY (dps):	3.450 E2
HALF-LIFE:	28.79 years
CALIBRATION DATE:	October 21, 2003 12:00 EST
RELATIVE EXPANDED UNCERTAINTY (k=2):	3.3%

Impurities: γ-impurities <0.1%

Diameter of active area: 43 mm. Low smooth bottom planchet. Source covering 0.85 mg/cm^2 mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER EW091503, Item 1

SOURCE PREPARED BY: M Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED: 10-27-03

PARAGON ANALYTICS
Radiochemistry Data Package

Section 8

CHAIN OF CUSTODY

8

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0403062
Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
030104-28-01	0403062-1		WIPE	02-Mar-04	11:15
030104-28-02	0403062-2		WIPE	02-Mar-04	11:15
030104-28-03	0403062-3		WIPE	02-Mar-04	11:15
030104-28-04	0403062-4		WIPE	02-Mar-04	11:15
030104-28-05	0403062-5		WIPE	02-Mar-04	11:15
030104-28-06	0403062-6		WIPE	02-Mar-04	11:15
030104-28-07	0403062-7		WIPE	02-Mar-04	11:15
030104-28-08	0403062-8		WIPE	02-Mar-04	11:15
030104-28-09	0403062-9		WIPE	02-Mar-04	11:15
030104-28-10	0403062-10		WIPE	02-Mar-04	11:15
030104-28-11	0403062-11		WIPE	02-Mar-04	11:15
030104-28-12	0403062-12		WIPE	02-Mar-04	11:15
030104-28-13	0403062-13		WIPE	02-Mar-04	11:15
030104-28-14	0403062-14		WIPE	02-Mar-04	11:15
030104-28-15	0403062-15		WIPE	02-Mar-04	11:15
030104-28-16	0403062-16		WIPE	02-Mar-04	11:15
030104-28-17	0403062-17		WIPE	02-Mar-04	11:15
030104-28-18	0403062-18		WIPE	02-Mar-04	11:15
030104-28-19	0403062-19		WIPE	02-Mar-04	11:15
030104-28-20	0403062-20		WIPE	02-Mar-04	11:15
030104-28-21	0403062-21		WIPE	02-Mar-04	11:15
030104-28-22	0403062-22		WIPE	02-Mar-04	11:15
030104-28-23	0403062-23		WIPE	02-Mar-04	11:15
030104-28-24	0403062-24		WIPE	02-Mar-04	11:15
030104-28-25	0403062-25		WIPE	02-Mar-04	11:15
030104-28-26	0403062-26		WIPE	02-Mar-04	11:15
030104-28-27	0403062-27		WIPE	02-Mar-04	11:15
030104-28-28	0403062-28		WIPE	02-Mar-04	11:15
030104-28-29	0403062-29		WIPE	02-Mar-04	11:15
030104-28-30	0403062-30		WIPE	02-Mar-04	11:15
030104-28-31	0403062-31		WIPE	02-Mar-04	11:17
030104-28-32	0403062-32		WIPE	02-Mar-04	11:17

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0403062
Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
030104-28-33	0403062-33		WIPE	02-Mar-04	11:17
030104-28-34	0403062-34		WIPE	02-Mar-04	11:17
030104-28-35	0403062-35		WIPE	02-Mar-04	11:17
030104-28-36	0403062-36		WIPE	02-Mar-04	11:17
030104-28-37	0403062-37		WIPE	02-Mar-04	11:17
030104-28-38	0403062-38		WIPE	02-Mar-04	11:17
030104-28-39	0403062-39		WIPE	02-Mar-04	11:17
030104-28-40	0403062-40		WIPE	02-Mar-04	11:17
030104-28-41	0403062-41		WIPE	02-Mar-04	11:17
030104-28-42	0403062-42		WIPE	02-Mar-04	11:17
030104-28-43	0403062-43		WIPE	02-Mar-04	11:17
030104-28-44	0403062-44		WIPE	02-Mar-04	11:17
030104-28-45	0403062-45		WIPE	02-Mar-04	11:17
030104-28-46	0403062-46		WIPE	02-Mar-04	11:17
030104-28-20FD	0403062-47		WIPE	02-Mar-04	11:17
030104-28-36FD	0403062-48		WIPE	02-Mar-04	11:17
030104-28-45FD	0403062-49		WIPE	02-Mar-04	11:17
030104-28-FB	0403062-50		WIPE	02-Mar-04	11:17

040306Z

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: AL209030104-28
PAGE 1 of 3
Bill to:

Project No. 101115
Project name EPA NEIC EDDP
Sample Coordinator James Nelson / 303-231-1279
Project Manager Randy Rodgers / 865-694-7457
Sample Team Members T. TRENT, J. STEPHENS

Sample Shipment Date
Lab Destination Paragon Analytics, Inc.
Lab Contact Debbie FAZIO
Project Contact/phone Ben Dettorre / 865-670-2669
Carrier Waybill No.

Report to: Ben Dettore, 312 Directors Drive, Knoxville, TN 37923

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
1	030104-28-01	Rm A1209 F3S Location C-01	3-2-04 1115	Smear		
2	-02	-02				
3	-03	-03				
4	-04	-04				
5	-05	-05				
6	-06	-06				
7	-07	-07				
8	-08	-08				

Special Instructions:

Possible Hazard Identification: Non-haz ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: Return to Client ☐ Disposal by Lab ☒ Archive ☐

Turnaround Time Required: Normal ☒ Rush ☐

QC Level: I. ☐ II. ☐ III. ☐ Project Specific: Defined in QAPP

1. Relinquished by (Signature/Affiliation)	Date: 3-5-04 Time: 0800	1. Received by (Signature/Affiliation)	Date: 3-5-04 Time: 0800
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: 3-5-04 Time: 1635
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: ANALYSIS: Gross Alpha/Beta - MDC (REPORTING LIMITS) of <1.1 dpm/smear for alpha
<100 dpm/smear for beta

040306 Z

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: A1209-030104-28

Project Name/Project No. EPA NEIC EDDP / 101115 Lab Destination Paragon Analytics, Inc. Sample Shipment Date

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
9	030104-28-09	RmA1209 FSS Location C-09	3-2-04 1115	Smear		
10	-10	-10				
11	-11	-11				
12	-12	-12				
13	-13	-13				
14	-14	-14				
15	-15	-15				
16	-16	-16				
17	-17	-17				
18	-18	-18				
19	-19	-19				
20	-20	-20				
21	-21	-21				
22	-22	-22				
23	-23	-23				
24	-24	-24				
25	-25	-25				
26	-26	-26				
27	-27	-27				
28	-28	-28				
29	-29	-29				
30	-30	-30				

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040307

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: A1209-030104-28

Project Name/Project No. EPA NEIC EDDP / 101115 Lab Destination Paragon Analytics, Inc. Sample Shipment Date

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
31	030104-28-31	Rm A1209 FSS Location C-31	3-2-04 1117	Smear		
32	32	-32				
33	33	-33				
34	34	-34				
35	35	-35				
36	36	-36				
37	37	BS-1209-01				
38	38	-02				
39	39	-03				
40	40	-04				
41	41	-05				
42	42	-06				
43	43	-07				
44	44	-08				
45	45	-09				
46	46	-10				
47	-20 FD	Rm 1209 FSS Loc C-20 Field Dup				
48	-36 FD	C-36 Field Dup				
49	-45 FD	BS-1209-09 Field Dup				
50	-FB	Field Blank				
51		N				
52		A				

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Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: Shaw Foster Weir WORKORDER NO: 0403062

PROJECT MANAGER: DC INITIALS: DC DATE: 3/8/04

1. Does this project require any special handling in addition to standard Paragon procedures?		Yes	No
IS PRE-SCREENING REQUIRED? (radiochemistry, DOE, etc.)		Yes	No
2. Are custody seals on shipping containers intact? How many custody seals are provided? _____	N/A	Yes	No
3. Are the custody seals on sample containers intact?	N/A	Yes	No
4. Is there a Chain-of-Custody (COC) or other representative documents, letters, or shipping memos?		Yes	No
5. Is the COC complete? Relinquished: Yes Y No___ Analyses Requested: Yes Y No___	N/A	Yes	No
6. Is the COC in agreement with the samples received? No. of Samples: Yes Y No___ Sample ID's: Yes Y No___ Matrix: Yes Y No___ No. of Containers: Yes Y No___	N/A	Yes	No
7. Were COC (if applicable) and sample labels legible?		Yes	No
8. Were airbills present and/or removable?	N/A	Yes	No
9. Are all aqueous samples requiring chemical preservation preserved correctly (excluding volatile organics)?	N/A	Yes	No
Are all aqueous non-preserved samples at the correct pH?		Yes	No
10. Is there enough sample for requested analyses? If so, were samples placed in the proper containers?		Yes	No
11. Are all samples within holding times for the requested analyses?		Yes	No
12. Were all sample containers received intact? (not broken or leaking, etc.)		Yes	No
13. Are samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? Size of bubble: ___ < green pea; ___ > green pea (List sample IDs and affected containers on Page 2)	N/A	Yes	No
14. Were samples checked for and free from the presence of residual chlorine?	N/A	Yes	No
15. Were the sample(s) shipped on ice?	N/A	Yes	No
16. Were cooler temperatures measured at 0.1 - 6 °C? IR Gun Used*: 1 2	N/A	Yes	No
17. Were all samples cooled that should have been cooled?	N/A	Yes	No

Cooler #'s BIX

Temperature ambient °C

Project Manager Signature / Date: Debbie Fojo 3/9/04

A NO RESPONSE TO ANY QUESTION EXCEPT # 1 REQUIRES THE COMPLETION OF PAGE 2 OF THIS FORM.

* IR Gun #1 (original): Raytek, SN SC-PM3/T29403
IR Gun #2 (newer): Oakton, SN 2SCIR1201

Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: Shaw Knoxville (NEIC) WORKORDER NO: _____

PROJECT MANAGER: D. Fazio INITIALS: DF DATE: 3/9/04

- ☐ Custody seals broken (on outside of shipping container or on sample containers).
- ☒ No Chain-of-Custody (COC) present.
- ☐ Number of samples on the COC do not match the number of samples received.
- ☐ Aqueous samples not preserved correctly (see pH discussion below).
- ☐ SVOC samples contained residual chlorine (list sample IDs and affected containers below).
- ☐ Samples received at inappropriate temperature.
- ☐ Insufficient sample to perform requested analyses.
- ☐ Extraction or analytical holding times expired in transit.
- ☐ Broken/leaking bottles and intact bottles received in same cooler (list affected sample IDs below).
- ☐ No analyses requested.
- ☐ Incorrect sample type received.
- ☐ VOAs, reactive CN/S, radon not headspace free (list sample IDs and affected vials below).
- ☐ Airbills not present and/or removable (record applicable shipper's tracking number below).
- ☐ Other (describe below).

Describe discrepancy:

WIPES FOR REFERENCE DOCUMENTS: A1209-030104-28 & A1209-030104-28 03/9/04 WERE RECEIVED 3/8/04 1635.

CHAINS RECEIVED BY FACSIMILE 3/9/04

REF DOCUMENT A1209-030104-28 SENT TO PARAGON IN ERROR. COURIER TO PICK UP AND RETURN TO SHAW 3/9/04 PER JAMES NELSON

Was the client contacted? ___ No; ___ Yes: Name _____ Date/Time _____

Was the pH of any sample adjusted by the laboratory? ___ No; ___ Yes (see Table below):

NOTE: **No pH adjustments shall be made without prior consent of Project Manager. After pH adjustment, hold metals and radchem samples ≥ 16 hr before analysis.**

Sample ID	*Initial pH*	*Final pH (wait 30 min)*	*Type of Reagent Used*	*Lot No. of Reagent Used*	*Initials / Date / Time*

Was the laboratory directed to proceed with the analysis of any samples yielding the presence of residual chlorine? ___ No; ___ Yes (see notes above).

Project Manager Signature / Date: Debbie Fazio 3/9/04

PARAGON ANALYTICS
Radiochemistry Data Package

Section 9

ADDITIONAL SUPPORTING DOCUMENTATION

9

Gas Proportional Counter

Instrument Calibration

Background Calibration

LB4100-B Weekly Instrument Calibration and Check
Background Determinations

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.078	0.044	0.150	PASS	1.339	1.244	1.486	PASS	A1 (01)
A2 (02)	0.171	0.050	0.235	PASS	1.302	1.255	1.493	PASS	A2 (02)
A3 (03)	0.121	0.037	0.173	PASS	1.439	1.251	1.518	PASS	A3 (03)
A4 (04)	0.158	0.001	0.193	PASS	1.427	1.225	1.540	PASS	A4 (04)
B1 (05)	0.126	-0.006	0.283	PASS	1.636	1.428	1.981	PASS	B1 (05)
B2 (06)	0.094	0.008	0.247	PASS	1.390	1.339	1.770	PASS	B2 (06)
B3 (07)	0.091	0.039	0.259	PASS	1.491	1.421	1.747	PASS	B3 (07)
B4 (08)	0.092	-0.027	0.316	PASS	1.585	1.498	1.741	PASS	B4 (08)
C1 (09)	0.109	0.046	0.174	PASS	1.523	1.324	1.754	PASS	C1 (09)
C2 (10)	0.084	0.042	0.205	PASS	1.582	1.327	1.733	PASS	C2 (10)
C3 (11)	0.124	0.067	0.219	PASS	1.515	1.344	1.766	PASS	C3 (11)
C4 (12)	0.091	-0.012	0.216	PASS	1.473	1.338	1.726	PASS	C4 (12)
D1 (13)	0.089	0.028	0.206	PASS	1.484	1.302	1.759	PASS	D1 (13)
D2 (14)	0.106	0.017	0.207	PASS	2.056	1.730	2.319	PASS	D2 (14)
D3 (15)	0.098	0.044	0.147	PASS	1.815	1.566	2.045	PASS	D3 (15)
D4 (16)	0.100	0.022	0.206	PASS	1.853	1.405	2.033	PASS	D4 (16)

Reviewed by: LCB Date: 3/15/04

Control Limits set 1/26/04.
CJ 1/26/04

000144

LB4100-B Weekly Instrument Calibration and Check
Background Determinations

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.087	0.044	0.150	PASS	1.378	1.244	1.486	PASS	A1 (01)
A2 (02)	0.097	0.050	0.235	PASS	1.276	1.255	1.493	PASS	A2 (02)
A3 (03)	0.071	0.037	0.173	PASS	1.338	1.251	1.518	PASS	A3 (03)
A4 (04)	0.102	0.001	0.193	PASS	1.355	1.225	1.540	PASS	A4 (04)
B1 (05)	0.111	-0.006	0.283	PASS	1.594	1.428	1.981	PASS	B1 (05)
B2 (06)	0.101	0.008	0.247	PASS	1.398	1.339	1.770	PASS	B2 (06)
B3 (07)	0.081	0.039	0.259	PASS	1.441	1.421	1.747	PASS	B3 (07)
B4 (08)	0.107	-0.027	0.316	PASS	1.537	1.498	1.741	PASS	B4 (08)
C1 (09)	0.128	0.046	0.174	PASS	1.626	1.324	1.754	PASS	C1 (09)
C2 (10)	0.089	0.042	0.205	PASS	1.550	1.327	1.733	PASS	C2 (10)
C3 (11)	0.111	0.067	0.219	PASS	1.527	1.344	1.766	PASS	C3 (11)
C4 (12)	0.073	-0.012	0.216	PASS	1.509	1.338	1.726	PASS	C4 (12)
D1 (13)	0.127	0.028	0.206	PASS	1.547	1.302	1.759	PASS	D1 (13)
D2 (14)	0.130	0.017	0.207	PASS	2.103	1.730	2.319	PASS	D2 (14)
D3 (15)	0.104	0.044	0.147	PASS	1.715	1.566	2.045	PASS	D3 (15)
D4 (16)	0.117	0.022	0.206	PASS	1.841	1.405	2.033	PASS	D4 (16)

Reviewed by: 7/2 Date: 3-20-04

Control Limits set 1/26/04.
CJ 1/26/04

000145

Gas Proportional Counter

Quality Control Data

Daily Background Checks

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.117	-0.030	0.186	PASS	1.517	0.891	1.787	PASS	A1 (01)
A2 (02)	0.067	0.011	0.331	PASS	1.500	0.860	1.744	PASS	A2 (02)
A3 (03)	0.183	-0.014	0.256	PASS	1.817	0.974	1.904	PASS	A3 (03)
A4 (04)	0.100	0.004	0.312	PASS	1.350	0.964	1.890	PASS	A4 (04)
B1 (05)	0.067	-0.011	0.263	PASS	1.800	1.141	2.131	PASS	B1 (05)
B2 (06)	0.133	-0.025	0.213	PASS	1.633	0.933	1.847	PASS	B2 (06)
B3 (07)	0.050	-0.026	0.208	PASS	1.717	1.018	1.964	PASS	B3 (07)
B4 (08)	0.183	-0.025	0.209	PASS	1.433	1.097	2.073	PASS	B4 (08)
C1 (09)	0.300	-0.019	0.237	FLAG-HIGH	2.317	1.045	2.001	FLAG-HIGH	C1 (09)
C2 (10)	0.117	-0.028	0.196	PASS	1.650	1.095	2.069	PASS	C2 (10)
C3 (11)	0.117	-0.012	0.260	PASS	1.583	1.038	1.992	PASS	C3 (11)
C4 (12)	0.133	-0.026	0.208	PASS	1.750	1.003	1.943	PASS	C4 (12)
D1 (13)	0.100	-0.027	0.205	PASS	1.733	1.012	1.956	PASS	D1 (13)
D2 (14)	0.200	-0.020	0.232	PASS	2.350	1.501	2.611	PASS	D2 (14)
D3 (15)	0.183	-0.023	0.219	PASS	1.950	1.293	2.337	PASS	D3 (15)
D4 (16)	0.200	-0.022	0.222	PASS	2.700	1.326	2.380	FLAG-HIGH	D4 (16)

- Det 9, 16 are recounted in file BKB0319A.

Reviewed by: _____ Date: 3/19/04

Control limits established from prevoius weekly background determinations.
Weekly Background File: BKB0313W Date: 3/13/04 Analyst: CJ

000147

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A1 (01)
A2 (02)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A2 (02)
A3 (03)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A3 (03)
A4 (04)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A4 (04)
B1 (05)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B1 (05)
B2 (06)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B2 (06)
B3 (07)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B3 (07)
B4 (08)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B4 (08)
C1 (09)	0.333	-0.019	0.237	FLAG-HIGH	1.867	1.045	2.001	PASS	C1 (09)
C2 (10)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C2 (10)
C3 (11)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C3 (11)
C4 (12)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C4 (12)
D1 (13)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D1 (13)
D2 (14)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D2 (14)
D3 (15)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D3 (15)
D4 (16)	0.200	-0.022	0.222	PASS	1.800	1.326	2.380	PASS	D4 (16)

-Det 9 is offline & for today.

Reviewed by: _____ Date: 3/19/04

Control limits established from prevoius weekly background determinations.
Weekly Background File: BKB0313W Date: 3/13/04 Analyst: CJ

3/20/04 (B)

151148

QUALITY ASSURANCE SUMMARY SHEET

PAI W.O. # / Batch Gas Flow Proportional Count
TEST —

Briefly document any QA or other problems or deviations associated with the analysis of samples. Problems could result from login-in, color, odor, dilution, consistency, scheduling, equipment, or instrumentation, or may include documentation of minor deviations necessary due to unique DQO's or sample characteristics.

When weekly background counts are completed the morning of a new day, it is not necessary to perform daily BKG checks. However daily Efficiency checks will be run.

CM
11/17/98

TECHNICIAN/ANALYST CM DATE 11/17/98

RESOURCE MANAGER [illegible] DATE 11/17/98

FRM 302FC2.FRM (12/Jan/98)

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.200	-0.027	0.201	PASS	1.550	0.923	1.833	PASS	A1 (01)
A2 (02)	0.167	-0.024	0.218	PASS	1.250	0.839	1.713	PASS	A2 (02)
A3 (03)	0.117	-0.032	0.174	PASS	1.633	0.890	1.786	PASS	A3 (03)
A4 (04)	0.267	-0.022	0.226	FLAG-HIGH	1.367	0.904	1.806	PASS	A4 (04)
B1 (05)	0.150	-0.018	0.240	PASS	1.700	1.105	2.083	PASS	B1 (05)
B2 (06)	0.150	-0.022	0.224	PASS	1.433	0.940	1.856	PASS	B2 (06)
B3 (07)	0.167	-0.029	0.191	PASS	1.500	0.976	1.906	PASS	B3 (07)
B4 (08)	0.283	-0.020	0.234	FLAG-HIGH	1.933	1.057	2.017	PASS	B4 (08)
C1 (09)	0.183	-0.011	0.267	PASS	1.500	1.132	2.120	PASS	C1 (09)
C2 (10)	0.200	-0.027	0.205	PASS	1.483	1.068	2.032	PASS	C2 (10)
C3 (11)	0.183	-0.018	0.240	PASS	1.883	1.048	2.006	PASS	C3 (11)
C4 (12)	0.133	-0.032	0.178	PASS	1.383	1.033	1.985	PASS	C4 (12)
D1 (13)	0.167	-0.011	0.265	PASS	1.800	1.065	2.029	PASS	D1 (13)
D2 (14)	0.133	-0.010	0.270	PASS	1.850	1.541	2.665	PASS	D2 (14)
D3 (15)	0.067	-0.021	0.229	PASS	1.933	1.208	2.222	PASS	D3 (15)
D4 (16)	0.183	-0.015	0.249	PASS	2.167	1.316	2.366	PASS	D4 (16)

-Det 4,8 are recounted in file BKB0322A.

Reviewed by: _____ Date: 3/22/04

Control limits established from prevolus weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

000150

BKB0322.XLD Printed 3/22/04 8:52 AM

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A1 (01)
A2 (02)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A2 (02)
A3 (03)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A3 (03)
A4 (04)	0.150	-0.022	0.226	PASS	1.583	0.904	1.806	PASS	A4 (04)
B1 (05)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B1 (05)
B2 (06)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B2 (06)
B3 (07)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B3 (07)
B4 (08)	0.250	-0.020	0.234	FLAG-HIGH	1.583	1.057	2.017	PASS	B4 (08)
C1 (09)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C1 (09)
C2 (10)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C2 (10)
C3 (11)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C3 (11)
C4 (12)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C4 (12)
D1 (13)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D1 (13)
D2 (14)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D2 (14)
D3 (15)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D3 (15)
D4 (16)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D4 (16)

-Det 8 is Offline -2 for today.

Reviewed by: _____ Date: 3/22/04

Control limits established from prevolus weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

000151

BKB A.XLD Printed 3/ 10:05 AM

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.067	-0.027	0.201	PASS	1.517	0.923	1.833	PASS	A1 (01)
A2 (02)	0.133	-0.024	0.218	PASS	1.700	0.839	1.713	PASS	A2 (02)
A3 (03)	0.100	-0.032	0.174	PASS	1.283	0.890	1.786	PASS	A3 (03)
A4 (04)	0.117	-0.022	0.226	PASS	1.517	0.904	1.806	PASS	A4 (04)
B1 (05)	0.133	-0.018	0.240	PASS	1.683	1.105	2.083	PASS	B1 (05)
B2 (06)	0.083	-0.022	0.224	PASS	1.567	0.940	1.856	PASS	B2 (06)
B3 (07)	0.117	-0.029	0.191	PASS	1.467	0.976	1.906	PASS	B3 (07)
B4 (08)	0.233	-0.020	0.234	PASS	1.700	1.057	2.017	PASS	B4 (08)
C1 (09)	0.100	-0.011	0.267	PASS	1.800	1.132	2.120	PASS	C1 (09)
C2 (10)	0.100	-0.027	0.205	PASS	1.900	1.068	2.032	PASS	C2 (10)
C3 (11)	0.133	-0.018	0.240	PASS	1.717	1.048	2.006	PASS	C3 (11)
C4 (12)	0.083	-0.032	0.178	PASS	1.783	1.033	1.985	PASS	C4 (12)
D1 (13)	0.150	-0.011	0.265	PASS	1.500	1.065	2.029	PASS	D1 (13)
D2 (14)	0.067	-0.010	0.270	PASS	2.000	1.541	2.665	PASS	D2 (14)
D3 (15)	0.083	-0.021	0.229	PASS	1.867	1.208	2.222	PASS	D3 (15)
D4 (16)	0.083	-0.015	0.249	PASS	2.200	1.316	2.366	PASS	D4 (16)

Reviewed by: LCB Date: 3/23/04

Control limits established from prevoius weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.050	-0.027	0.201	PASS	1.367	0.923	1.833	PASS	A1 (01)
A2 (02)	0.117	-0.024	0.218	PASS	1.250	0.839	1.713	PASS	A2 (02)
A3 (03)	0.067	-0.032	0.174	PASS	1.517	0.890	1.786	PASS	A3 (03)
A4 (04)	0.100	-0.022	0.226	PASS	1.517	0.904	1.806	PASS	A4 (04)
B1 (05)	0.100	-0.018	0.240	PASS	1.850	1.105	2.083	PASS	B1 (05)
B2 (06)	0.050	-0.022	0.224	PASS	1.383	0.940	1.856	PASS	B2 (06)
B3 (07)	0.083	-0.029	0.191	PASS	1.500	0.976	1.906	PASS	B3 (07)
B4 (08)	0.117	-0.020	0.234	PASS	1.633	1.057	2.017	PASS	B4 (08)
C1 (09)	0.083	-0.011	0.267	PASS	1.533	1.132	2.120	PASS	C1 (09)
C2 (10)	0.100	-0.027	0.205	PASS	1.567	1.068	2.032	PASS	C2 (10)
C3 (11)	0.133	-0.018	0.240	PASS	1.667	1.048	2.006	PASS	C3 (11)
C4 (12)	0.067	-0.032	0.178	PASS	1.367	1.033	1.985	PASS	C4 (12)
D1 (13)	0.217	-0.011	0.265	PASS	1.517	1.065	2.029	PASS	D1 (13)
D2 (14)	0.117	-0.010	0.270	PASS	2.100	1.541	2.665	PASS	D2 (14)
+ D3 (15)	0.017	-0.021	0.229	PASS	2.233	1.208	2.222	FLAG-HIGH	D3 (15)
D4 (16)	0.133	-0.015	0.249	PASS	2.350	1.316	2.366	PASS	D4 (16)

Det 15 recounted in file BKB0324A.

Reviewed by: KF Date: 3-24-04

Control limits established from prevoius weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

000153

BKE[illegible]I.XLD Printed 3/[illegible]4 11:10 AM

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A1 (01)
A2 (02)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A2 (02)
A3 (03)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A3 (03)
A4 (04)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A4 (04)
B1 (05)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	OFFLINE	B1 (05)
B2 (06)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	OFFLINE	B2 (06)
B3 (07)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B3 (07)
B4 (08)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B4 (08)
C1 (09)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C1 (09)
C2 (10)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C2 (10)
C3 (11)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C3 (11)
C4 (12)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C4 (12)
D1 (13)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D1 (13)
D2 (14)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D2 (14)
+ D3 (15)	0.083	-0.021	0.229	PASS	11.100	1.208	2.222	FLAG-HIGH	D3 (15)
D4 (16)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D4 (16)

+ Det 15 off line β 3/24.

Reviewed by: NZ Date: 3-24-04

Control limits established from prevolus weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

000154

BKB0324A.XLD Printed 3/24/04 12:15 PM

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.083	-0.027	0.201	PASS	1.300	0.923	1.833	PASS	A1 (01)
A2 (02)	0.167	-0.024	0.218	PASS	1.333	0.839	1.713	PASS	A2 (02)
A3 (03)	0.133	-0.032	0.174	PASS	1.550	0.890	1.786	PASS	A3 (03)
A4 (04)	0.117	-0.022	0.226	PASS	1.250	0.904	1.806	PASS	A4 (04)
B1 (05)	0.217	-0.018	0.240	PASS	1.767	1.105	2.083	OFFLINE	B1 (05)
B2 (06)	0.167	-0.022	0.224	PASS	1.633	0.940	1.856	OFFLINE	B2 (06)
B3 (07)	0.067	-0.029	0.191	PASS	1.500	0.976	1.906	PASS	B3 (07)
B4 (08)	0.250	-0.020	0.234	FLAG-HIGH	1.617	1.057	2.017	PASS	B4 (08)
C1 (09)	0.067	-0.011	0.267	PASS	1.583	1.132	2.120	PASS	C1 (09)
C2 (10)	0.083	-0.027	0.205	PASS	1.483	1.068	2.032	PASS	C2 (10)
C3 (11)	0.217	-0.018	0.240	PASS	2.017	1.048	2.006	FLAG-HIGH	C3 (11)
C4 (12)	0.233	-0.032	0.178	FLAG-HIGH	1.683	1.033	1.985	PASS	C4 (12)
D1 (13)	0.133	-0.011	0.265	PASS	1.833	1.065	2.029	PASS	D1 (13)
D2 (14)	0.233	-0.010	0.270	PASS	2.200	1.541	2.665	PASS	D2 (14)
D3 (15)	0.183	-0.021	0.229	PASS	2.733	1.208	2.222	FLAG-HIGH	D3 (15)
D4 (16)	0.150	-0.015	0.249	PASS	2.333	1.316	2.366	PASS	D4 (16)

— detectors 8, 11, 12, 15 will be recounted in file BKB0325A

Reviewed by: LCB Date: 3/25/04

Control limits established from prevolus weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A1 (01)
A2 (02)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A2 (02)
A3 (03)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A3 (03)
A4 (04)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A4 (04)
B1 (05)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	OFFLINE	B1 (05)
B2 (06)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	OFFLINE	B2 (06)
B3 (07)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B3 (07)
B4 (08)	0.200	-0.020	0.234	PASS	1.450	1.057	2.017	PASS	B4 (08)
C1 (09)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C1 (09)
C2 (10)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C2 (10)
C3 (11)	0.133	-0.018	0.240	PASS	1.800	1.048	2.006	PASS	C3 (11)
C4 (12)	0.083	-0.032	0.178	PASS	1.617	1.033	1.985	PASS	C4 (12)
D1 (13)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D1 (13)
D2 (14)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D2 (14)
D3 (15)	0.117	-0.021	0.229	PASS	2.667	1.208	2.222	FLAG-HIGH	D3 (15)
D4 (16)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D4 (16)

-Det 15 is offline β for today.

Reviewed by: _____ Date: 3/25/04

Control limits established from prevolus weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

000156

BKB0325A.XLD

Printed 3/25/04 9:24 AM

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	0.167	-0.027	0.201	PASS	1.517	0.923	1.833	PASS	A1 (01)
A2 (02)	0.233	-0.024	0.218	FLAG-HIGH	1.783	0.839	1.713	FLAG-HIGH	A2 (02)
A3 (03)	0.083	-0.032	0.174	PASS	1.517	0.890	1.786	PASS	A3 (03)
A4 (04)	0.117	-0.022	0.226	PASS	1.717	0.904	1.806	PASS	A4 (04)
B1 (05)	0.217	-0.018	0.240	PASS	1.850	1.105	2.083	OFFLINE	B1 (05)
B2 (06)	0.150	-0.022	0.224	PASS	1.283	0.940	1.856	OFFLINE	B2 (06)
B3 (07)	0.183	-0.029	0.191	PASS	1.267	0.976	1.906	PASS	B3 (07)
B4 (08)	0.133	-0.020	0.234	PASS	1.617	1.057	2.017	PASS	B4 (08)
C1 (09)	0.200	-0.011	0.267	PASS	1.450	1.132	2.120	PASS	C1 (09)
C2 (10)	0.150	-0.027	0.205	PASS	1.383	1.068	2.032	PASS	C2 (10)
C3 (11)	0.200	-0.018	0.240	PASS	1.850	1.048	2.006	PASS	C3 (11)
C4 (12)	0.133	-0.032	0.178	PASS	1.700	1.033	1.985	PASS	C4 (12)
D1 (13)	0.033	-0.011	0.265	PASS	1.800	1.065	2.029	PASS	D1 (13)
D2 (14)	0.200	-0.010	0.270	PASS	1.833	1.541	2.665	PASS	D2 (14)
D3 (15)	0.133	-0.021	0.229	PASS	2.367	1.208	2.222	FLAG-HIGH	D3 (15)
D4 (16)	0.083	-0.015	0.249	PASS	2.450	1.316	2.366	FLAG-HIGH	D4 (16)

-det 2, 15, 16 are recounted in file BKB0326A.

Reviewed by: _____ Date: 3/26/04

Control limits established from prevoius weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

LB4100-B Daily Instrument Performance Checks
Background Checks

Detector	Alpha				Beta				Detector
ID	CPM	LCL	UCL	Flag	CPM	LCL	UCL	Flag	ID
A1 (01)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A1 (01)
A2 (02)	0.050	-0.024	0.218	PASS	1.583	0.839	1.713	PASS	A2 (02)
A3 (03)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A3 (03)
A4 (04)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	A4 (04)
B1 (05)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	OFFLINE	B1 (05)
B2 (06)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	OFFLINE	B2 (06)
B3 (07)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B3 (07)
B4 (08)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	B4 (08)
C1 (09)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C1 (09)
C2 (10)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C2 (10)
C3 (11)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C3 (11)
C4 (12)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	C4 (12)
D1 (13)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D1 (13)
D2 (14)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	D2 (14)
D3 (15)	0.133	-0.021	0.229	PASS	1.950	1.208	2.222	PASS	D3 (15)
D4 (16)	0.100	-0.015	0.249	PASS	2.367	1.316	2.366	FLAG-HIGH	D4 (16)

-det 16 is offline B. for today.

Reviewed by: _____ Date: 3/26/04

Control limits established from prevolus weekly background determinations.
Weekly Background File: BKB0319W Date: 3/19/04 Analyst: KF

Gas Proportional Counter

Quality Control Data

Daily Instrument Performance Checks

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2495	0.2277	0.2583	PASS	0.8625	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2431	0.2314	0.2605	PASS	0.8714	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2273	0.2291	0.2588	FLAG-LOW	0.8994	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2480	0.2302	0.2602	PASS	0.8751	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2488	0.2342	0.2646	PASS	0.8974	0.9050	0.9663	FLAG-LOW	B1 (05)
B2 (06)	0.2268	0.2219	0.2484	PASS	0.8609	0.8585	0.9286	PASS	B2 (06)
B3 (07)	0.2626	0.2343	0.2656	PASS	0.9207	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2497	0.2236	0.2616	PASS	0.8861	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2623	0.2453	0.2752	PASS	0.9060	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2421	0.2311	0.2644	PASS	0.8927	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2458	0.2362	0.2674	PASS	0.8861	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2359	0.2241	0.2531	PASS	0.8694	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2510	0.2332	0.2660	PASS	0.8992	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2540	0.2375	0.2664	PASS	0.8696	0.8713	0.9377	FLAG-LOW	D2 (14)
D3 (15)	0.2593	0.2387	0.2733	PASS	0.8842	0.8858	0.9433	FLAG-LOW	D3 (15)
D4 (16)	0.2527	0.2381	0.2666	PASS	0.9107	0.8823	0.9367	PASS	D4 (16)

- Det 3, 14, 15 are recorded in file EFB0319.
+ Det 5 → offline Ps.

Reviewed by: _____ Date: 3/19/04

Control Limits established 12/21/03. JME

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	#VALUE!	0.2277	0.2583	#VALUE!	#VALUE!	0.8448	0.8995	#VALUE!	A1 (01)
A2 (02)	#VALUE!	0.2314	0.2605	#VALUE!	#VALUE!	0.8428	0.8989	#VALUE!	A2 (02)
A3 (03)	0.2437	0.2291	0.2588	PASS	0.8978	0.8661	0.9191	PASS	A3 (03)
A4 (04)	#VALUE!	0.2302	0.2602	#VALUE!	#VALUE!	0.8514	0.9123	#VALUE!	A4 (04)
B1 (05)	#VALUE!	0.2342	0.2646	#VALUE!	#VALUE!	0.9050	0.9663	#VALUE!	B1 (05)
B2 (06)	#VALUE!	0.2219	0.2484	#VALUE!	#VALUE!	0.8585	0.9286	#VALUE!	B2 (06)
B3 (07)	#VALUE!	0.2343	0.2656	#VALUE!	#VALUE!	0.8782	0.9579	#VALUE!	B3 (07)
B4 (08)	#VALUE!	0.2236	0.2616	#VALUE!	#VALUE!	0.8623	0.9360	#VALUE!	B4 (08)
C1 (09)	#VALUE!	0.2453	0.2752	#VALUE!	#VALUE!	0.8863	0.9595	#VALUE!	C1 (09)
C2 (10)	#VALUE!	0.2311	0.2644	#VALUE!	#VALUE!	0.8750	0.9478	#VALUE!	C2 (10)
C3 (11)	#VALUE!	0.2362	0.2674	#VALUE!	#VALUE!	0.8588	0.9345	#VALUE!	C3 (11)
C4 (12)	#VALUE!	0.2241	0.2531	#VALUE!	#VALUE!	0.8415	0.9081	#VALUE!	C4 (12)
D1 (13)	#VALUE!	0.2332	0.2660	#VALUE!	#VALUE!	0.8681	0.9355	#VALUE!	D1 (13)
D2 (14)	0.2542	0.2375	0.2664	PASS	0.9132	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2597	0.2387	0.2733	PASS	0.9092	0.8858	0.9433	PASS	D3 (15)
D4 (16)	#VALUE!	0.2381	0.2666	#VALUE!	#VALUE!	0.8823	0.9367	#VALUE!	D4 (16)

Reviewed by: _____ Date: 3/19/04

Control Limits established 12/21/03. JME

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2408	0.2277	0.2583	PASS	0.8615	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2390	0.2314	0.2605	PASS	0.8761	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2485	0.2291	0.2588	PASS	0.8956	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2460	0.2302	0.2602	PASS	0.8874	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2383	0.2342	0.2646	PASS	0.8803	0.9050	0.9663	FLAG-LOW	B1 (05)
B2 (06)	0.2283	0.2219	0.2484	PASS	0.8522	0.8585	0.9286	FLAG-LOW	B2 (06)
B3 (07)	0.2443	0.2343	0.2656	PASS	0.9192	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2344	0.2236	0.2616	PASS	0.8885	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2607	0.2453	0.2752	PASS	0.9223	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2372	0.2311	0.2644	PASS	0.9010	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2508	0.2362	0.2674	PASS	0.8950	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2470	0.2241	0.2531	PASS	0.8802	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2412	0.2332	0.2660	PASS	0.8977	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2535	0.2375	0.2664	PASS	0.9038	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2541	0.2387	0.2733	PASS	0.8984	0.8858	0.9433	PASS	D3 (15)
D4 (16)	0.2616	0.2381	0.2666	PASS	0.9031	0.8823	0.9367	PASS	D4 (16)

Reviewed by: TZ Date: 3.20.04

Control Limits established 12/21/03. JME

000162

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2370	0.2277	0.2583	PASS	0.8747	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2484	0.2314	0.2605	PASS	0.8690	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2405	0.2291	0.2588	PASS	0.8969	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2465	0.2302	0.2602	PASS	0.8806	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2432	0.2342	0.2646	PASS	0.8918	0.9050	0.9663	FLAG-LOW	B1 (05)
B2 (06)	0.2277	0.2219	0.2484	PASS	0.8530	0.8585	0.9286	FLAG-LOW	B2 (06)
B3 (07)	0.2471	0.2343	0.2656	PASS	0.9127	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2400	0.2236	0.2618	PASS	0.8978	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2537	0.2453	0.2752	PASS	0.9193	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2486	0.2311	0.2644	PASS	0.8984	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2530	0.2362	0.2674	PASS	0.8972	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2370	0.2241	0.2531	PASS	0.8822	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2537	0.2332	0.2660	PASS	0.8947	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2587	0.2375	0.2664	PASS	0.8834	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2550	0.2387	0.2733	PASS	0.8952	0.8858	0.9433	PASS	D3 (15)
D4 (16)	0.2474	0.2381	0.2666	PASS	0.9068	0.8823	0.9367	PASS	D4 (16)

-Det 5,6 are offline.

Reviewed by: _____ Date: 3/22/04

Control Limits established 12/21/03. JME

000163

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2473	0.2277	0.2583	PASS	0.8673	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2457	0.2314	0.2605	PASS	0.8765	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2480	0.2291	0.2588	PASS	0.8890	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2429	0.2302	0.2602	PASS	0.8829	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2388	0.2342	0.2646	PASS	0.8850	0.9050	0.9663	OFFLINE	B1 (05)
B2 (06)	0.2283	0.2219	0.2484	PASS	0.8578	0.8585	0.9286	FLAG-LOW	B2 (06)
B3 (07)	0.2499	0.2343	0.2656	PASS	0.9089	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2394	0.2236	0.2616	PASS	0.8995	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2516	0.2453	0.2752	PASS	0.9273	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2500	0.2311	0.2644	PASS	0.9106	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2494	0.2362	0.2674	PASS	0.8925	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2414	0.2241	0.2531	PASS	0.8733	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2536	0.2332	0.2660	PASS	0.9050	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2611	0.2375	0.2664	PASS	0.8939	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2543	0.2387	0.2733	PASS	0.8883	0.8858	0.9433	PASS	D3 (15)
D4 (16)	0.2472	0.2381	0.2666	PASS	0.9152	0.8823	0.9367	PASS	D4 (16)

—detectors 5,6 are offline β

Reviewed by: LCB Date: 3/23/04

Control Limits established 12/21/03. JME

000164

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2413	0.2277	0.2583	PASS	0.8588	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2419	0.2314	0.2605	PASS	0.8664	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2412	0.2291	0.2588	PASS	0.9034	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2533	0.2302	0.2602	PASS	0.8769	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2499	0.2342	0.2646	PASS	0.8888	0.9050	0.9663	OFFLINE	B1 (05)
B2 (06)	0.2382	0.2219	0.2484	PASS	0.8567	0.8585	0.9286	FLAG-LOW	B2 (06)
B3 (07)	0.2522	0.2343	0.2656	PASS	0.9173	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2416	0.2236	0.2616	PASS	0.8910	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2568	0.2453	0.2752	PASS	0.9140	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2404	0.2311	0.2644	PASS	0.9060	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2515	0.2362	0.2674	PASS	0.8923	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2342	0.2241	0.2531	PASS	0.8712	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2568	0.2332	0.2660	PASS	0.9040	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2572	0.2375	0.2664	PASS	0.8978	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2571	0.2387	0.2733	PASS	0.9008	0.8858	0.9433	PASS	D3 (15)
D4 (16)	0.2528	0.2381	0.2666	PASS	0.9123	0.8823	0.9367	PASS	D4 (16)

-Det 5,6 offline β for today.

Reviewed by: [signature] Date: 3/24/04

Control Limits established 12/21/03. JME

000165

EFBC XLD Printed 3/ 9:57 AM

LB4100 - B
Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2514	0.2277	0.2583	PASS	0.8612	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2455	0.2314	0.2605	PASS	0.8720	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2414	0.2291	0.2588	PASS	0.8887	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2422	0.2302	0.2602	PASS	0.8787	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2487	0.2342	0.2646	PASS	0.8935	0.9050	0.9663	OFFLINE	B1 (05)
B2 (06)	0.2337	0.2219	0.2484	PASS	0.8579	0.8585	0.9286	OFFLINE	B2 (06)
B3 (07)	0.2429	0.2343	0.2656	PASS	0.9199	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2378	0.2236	0.2616	PASS	0.8814	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2540	0.2453	0.2752	PASS	0.9367	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2429	0.2311	0.2644	PASS	0.9048	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2411	0.2362	0.2674	PASS	0.9031	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2461	0.2241	0.2531	PASS	0.8732	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2492	0.2332	0.2660	PASS	0.9068	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2527	0.2375	0.2664	PASS	0.9028	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2634	0.2387	0.2733	PASS	0.8808	0.8858	0.9433	FLAG-LOW	D3 (15)
D4 (16)	0.2501	0.2381	0.2666	PASS	0.9083	0.8823	0.9367	PASS	D4 (16)

– detectors 5, 6 are offline β
+ detector 15 is recounted in file EFB0325A

Reviewed by: LCB Date: 3/25/04

Control Limits established 12/21/03. JME

000166

EFB0325.XLD

Printed 3/25/04 6:42 AM

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	#VALUE!	0.2277	0.2583	#VALUE!	#VALUE!	0.8448	0.8995	#VALUE!	A1 (01)
A2 (02)	#VALUE!	0.2314	0.2605	#VALUE!	#VALUE!	0.8428	0.8989	#VALUE!	A2 (02)
A3 (03)	#VALUE!	0.2291	0.2588	#VALUE!	#VALUE!	0.8661	0.9191	#VALUE!	A3 (03)
A4 (04)	#VALUE!	0.2302	0.2602	#VALUE!	#VALUE!	0.8514	0.9123	#VALUE!	A4 (04)
B1 (05)	#VALUE!	0.2342	0.2646	#VALUE!	#VALUE!	0.9050	0.9663	OFFLINE	B1 (05)
B2 (06)	#VALUE!	0.2219	0.2484	#VALUE!	#VALUE!	0.8585	0.9286	OFFLINE	B2 (06)
B3 (07)	#VALUE!	0.2343	0.2656	#VALUE!	#VALUE!	0.8782	0.9579	#VALUE!	B3 (07)
B4 (08)	#VALUE!	0.2236	0.2616	#VALUE!	#VALUE!	0.8623	0.9360	#VALUE!	B4 (08)
C1 (09)	#VALUE!	0.2453	0.2752	#VALUE!	#VALUE!	0.8863	0.9595	#VALUE!	C1 (09)
C2 (10)	#VALUE!	0.2311	0.2644	#VALUE!	#VALUE!	0.8750	0.9478	#VALUE!	C2 (10)
C3 (11)	#VALUE!	0.2362	0.2674	#VALUE!	#VALUE!	0.8588	0.9345	#VALUE!	C3 (11)
C4 (12)	#VALUE!	0.2241	0.2531	#VALUE!	#VALUE!	0.8415	0.9081	#VALUE!	C4 (12)
D1 (13)	#VALUE!	0.2332	0.2660	#VALUE!	#VALUE!	0.8681	0.9355	#VALUE!	D1 (13)
D2 (14)	#VALUE!	0.2375	0.2664	#VALUE!	#VALUE!	0.8713	0.9377	#VALUE!	D2 (14)
D3 (15)	0.2624	0.2387	0.2733	PASS	0.8948	0.8858	0.9433	PASS	D3 (15)
D4 (16)	#VALUE!	0.2381	0.2666	#VALUE!	#VALUE!	0.8823	0.9367	#VALUE!	D4 (16)

Reviewed by: LCB Date: 3/25/04

Control Limits established 12/21/03. JME

LB4100 - B

Daily Instrument Performance Check
Efficiency Determinations

Detector	Alpha				Beta				Detector
ID	Eff.	LCL	UCL	Flag	Eff.	LCL	UCL	Flag	ID
A1 (01)	0.2460	0.2277	0.2583	PASS	0.8723	0.8448	0.8995	PASS	A1 (01)
A2 (02)	0.2406	0.2314	0.2605	PASS	0.8664	0.8428	0.8989	PASS	A2 (02)
A3 (03)	0.2433	0.2291	0.2588	PASS	0.9034	0.8661	0.9191	PASS	A3 (03)
A4 (04)	0.2474	0.2302	0.2602	PASS	0.8947	0.8514	0.9123	PASS	A4 (04)
B1 (05)	0.2429	0.2342	0.2646	PASS	0.8811	0.9050	0.9663	OFFLINE	B1 (05)
B2 (06)	0.2362	0.2219	0.2484	PASS	0.8659	0.8585	0.9286	OFFLINE	B2 (06)
B3 (07)	0.2428	0.2343	0.2656	PASS	0.9023	0.8782	0.9579	PASS	B3 (07)
B4 (08)	0.2406	0.2236	0.2616	PASS	0.8651	0.8623	0.9360	PASS	B4 (08)
C1 (09)	0.2655	0.2453	0.2752	PASS	0.9198	0.8863	0.9595	PASS	C1 (09)
C2 (10)	0.2444	0.2311	0.2644	PASS	0.9201	0.8750	0.9478	PASS	C2 (10)
C3 (11)	0.2513	0.2362	0.2674	PASS	0.8993	0.8588	0.9345	PASS	C3 (11)
C4 (12)	0.2374	0.2241	0.2531	PASS	0.8823	0.8415	0.9081	PASS	C4 (12)
D1 (13)	0.2477	0.2332	0.2660	PASS	0.9024	0.8681	0.9355	PASS	D1 (13)
D2 (14)	0.2532	0.2375	0.2664	PASS	0.8928	0.8713	0.9377	PASS	D2 (14)
D3 (15)	0.2570	0.2387	0.2733	PASS	0.8941	0.8858	0.9433	PASS	D3 (15)
D4 (16)	0.2535	0.2381	0.2666	PASS	0.9320	0.8823	0.9367	PASS	D4 (16)

— detectors 5, 6 are offline β

Reviewed by: LCB Date: 3/26/04

Control Limits established 12/21/03. JME

000168

EFB0326.XLD

Printed 3/26/04 7:51 AM

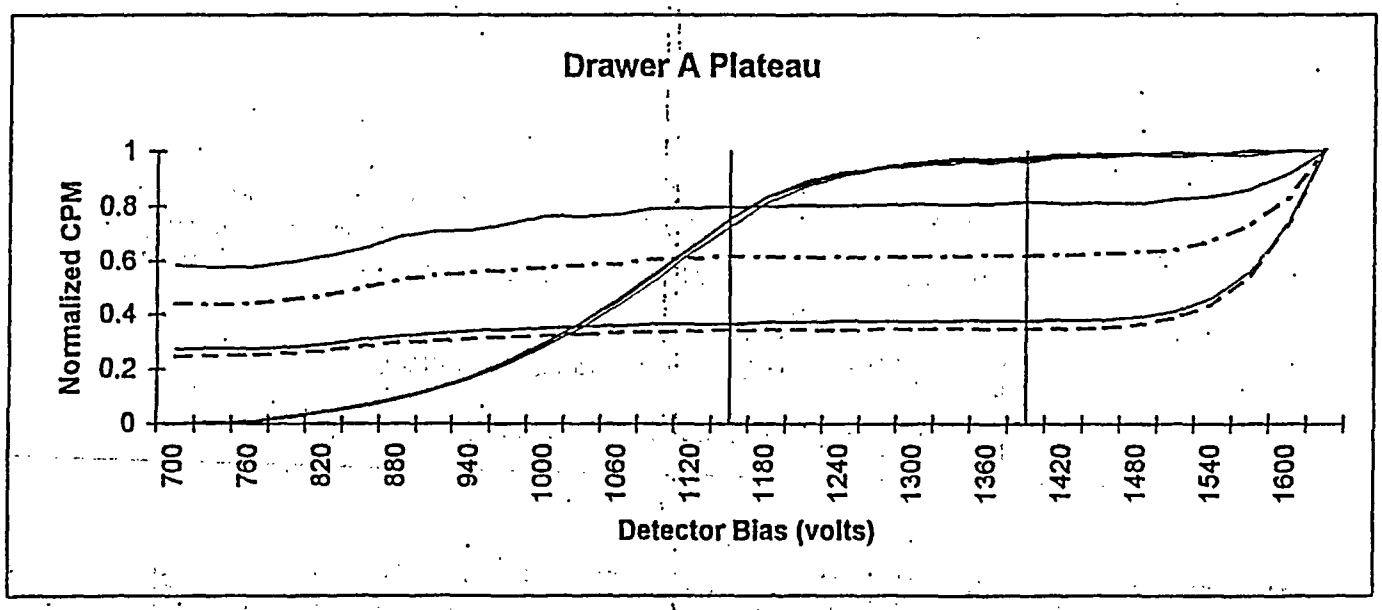
Gas Proportional Counter

Instrument Calibration

Initial Efficiency Calibration Standards Traceability

Unit Type: LB4100/W
Date Performed: 11/11/03 09:19
FileName: PTB1111A
Batch ID: DRAWER A

Unit Id: Aqua
Application Revision: 2
Application Version: Standard



Optimum alpha beta simultaneous operating voltage: 1402.5

Optimum alpha only operating voltage: 1147.5

	A1	A2	A3	A4
Beta slope at beta voltage	1.73%	1.36%	2.04%	1.59%
Alpha slope at beta voltage	0.75%	0.45%	0.63%	0.66%
Alpha slope at alpha voltage	1.76%	1.86%	1.20%	0.79%

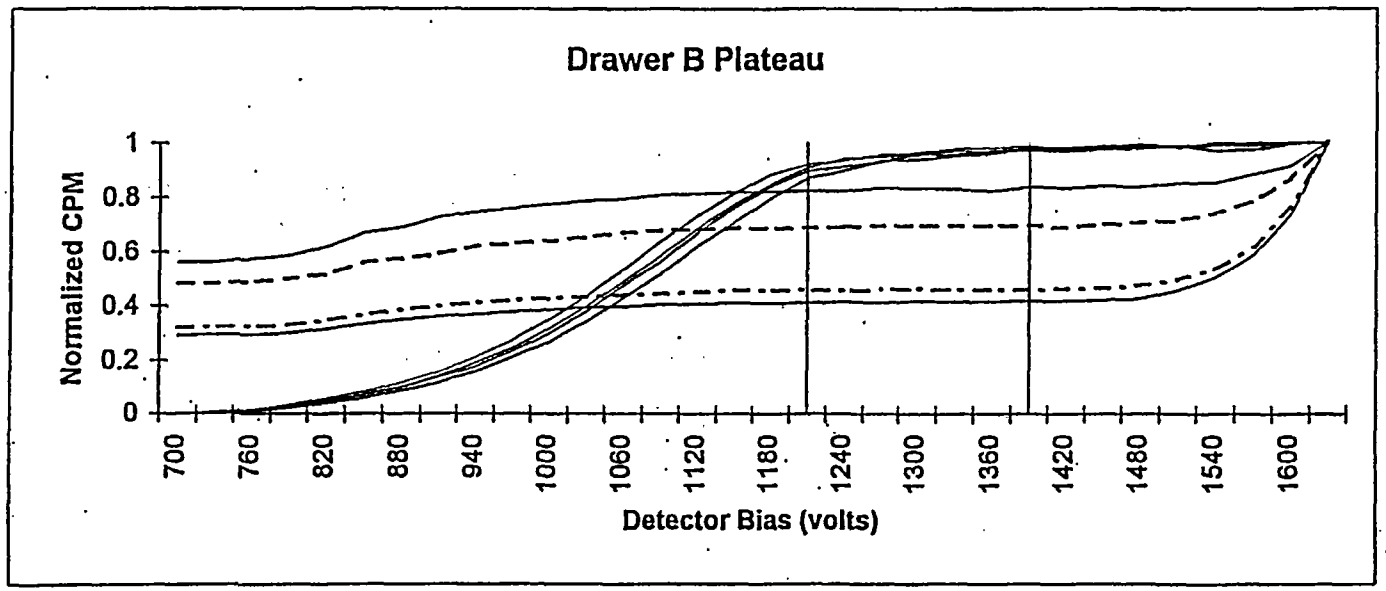
11/13/03

Printed 11/11/03 3:38 PM

000170

Unit Type: LB4100/W
Date Performed: 11/11/03 09:19
FileName: PTB1111B
Batch ID: DRAWER B

Unit Id: Aqua
Application Revision: 2
Application Version: Standard



Optimum alpha beta simultaneous operating voltage: 1402.5

Optimum alpha only operating voltage: 1200

	B1	B2	B3	B4
Beta slope at beta voltage	0.25%	1.73%	1.96%	1.01%
Alpha slope at beta voltage	1.26%	0.14%	0.86%	0.88%
Alpha slope at alpha voltage	1.42%	0.92%	0.63%	0.59%

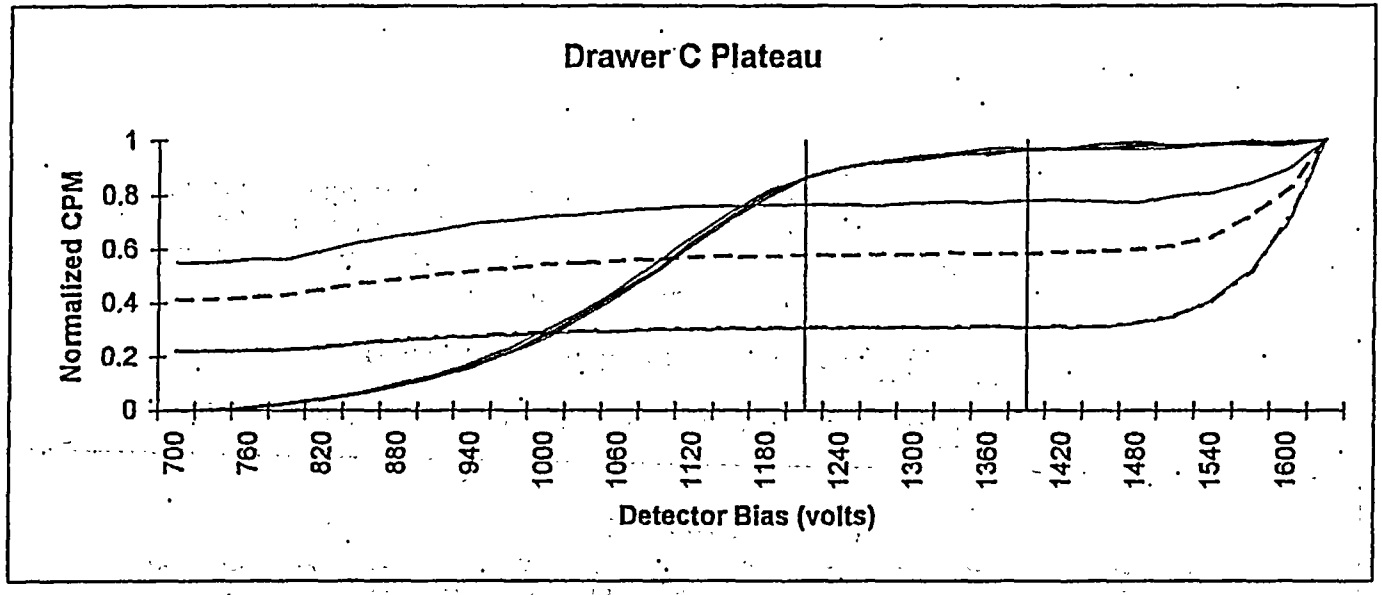
AE 11/13/03

Printed 11/11/03 3:39 PM

000171

Unit Type: LB4100/W
Date Performed: 11/11/03 15:41
FileName: PTB1111C
Batch ID: DRAWER C

Unit Id: Aqua
Application Revision: 2
Application Version: Standard



Optimum alpha beta simultaneous operating voltage: 1380

Optimum alpha only operating voltage: 1200

	C1	C2	C3	C4
Beta slope at beta voltage	1.97%	2.08%	1.59%	2.05%
Alpha slope at beta voltage	0.49%	0.66%	0.69%	-0.24%
Alpha slope at alpha voltage	0.44%	1.15%	1.08%	1.14%

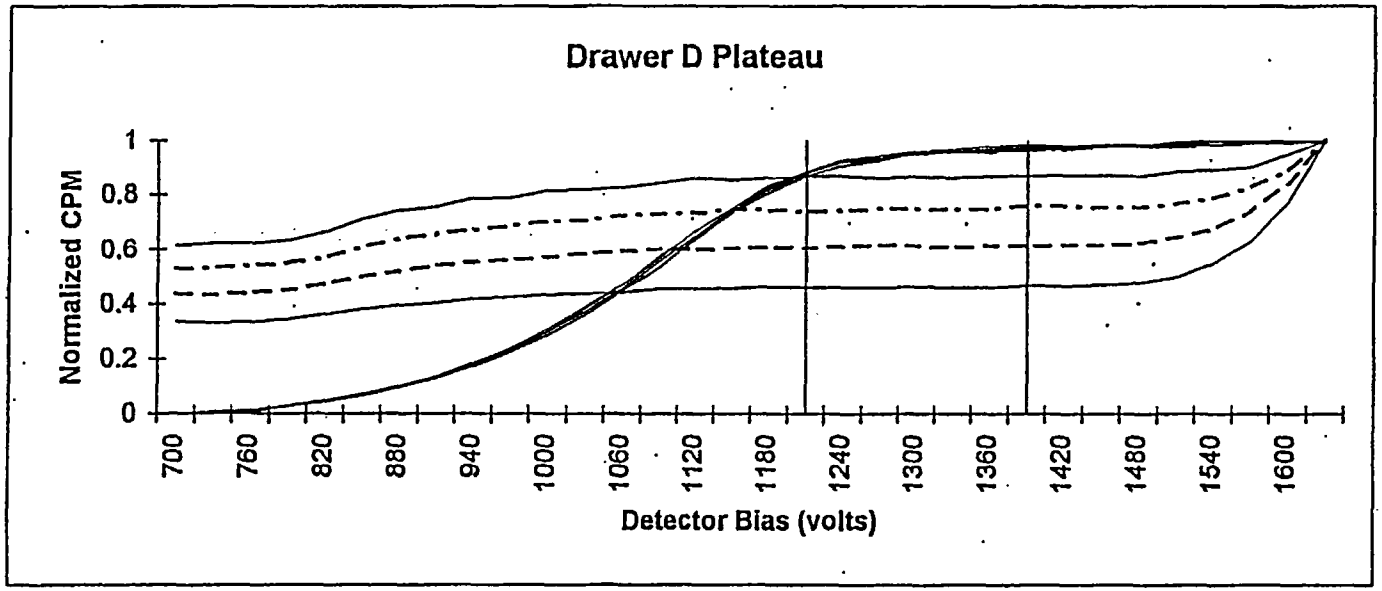
JG 11/13/03

Printed 11/12/03 11:16 AM

000172

Unit Type: LB4100/W
Date Performed: 11/11/03 15:42
FileName: PTB1111D
Batch ID: DRAWER D

Unit Id: Aqua
Application Revision: 2
Application Version: Standard



Optimum alpha beta simultaneous operating voltage: 1380

Optimum alpha only operating voltage: 1200

	D1	D2	D3	D4
Beta slope at beta voltage	1.81%	2.16%	1.11%	1.43%
Alpha slope at beta voltage	1.57%	0.87%	0.73%	0.96%
Alpha slope at alpha voltage	0.20%	1.53%	0.77%	0.04%

JE 11/13/03

Printed 11/12/03 11:17 AM

000173

LB4100-B Raw counts for Am-241 Wipe Efficiency Calibrations (Control ID #1123)

Detector ID	A1	A2	A3	A4	B1	B2	B3	B4
total time	4.27	4.3	4.22	4.27	4.02	4.1	4.19	4.11
Alpha counts	10006	10014	10018	10013	10018	10018	10017	10004
Alpha CPM	2343.22653	2328.69021	2373.83165	2344.84187	2491.8978	2443.29863	2390.49012	2433.92526
Alpha BKG CPM	0.099	0.147	0.102	0.123	0.142	0.116	0.202	0.138
Alpha Efficiency	0.24753988	0.24600426	0.25077303	0.24771054	0.26324562	0.25811158	0.25253286	0.25712138
archived STDEV	0.01286245	0.01278248	0.01303016	0.01287116	0.01367825	0.01341147	0.01312166	0.01336038
Beta CPM	376.084564	400.380465	418.200246	411.18437	508.465005	480.072317	451.732621	483.022533
A>B x-talk	0.1605	0.1719	0.1762	0.1754	0.2040	0.1965	0.1890	0.1985
Data file	EAW1226	EAW1226A	EAW1226B	EAW1226C	EAW1226D	EAW1226E	EAW1226F	EAW1226G

Detector ID	C1	C2	C3	C4	D1	D2	D3	D4
total time	4.12	4.14	4.19	4.28	4.25	4.21	4.1	4.14
total counts	10014	10007	10013	10015	10013	2381.84274	10020	10009
Alpha CPM	2430.48452	2417.02276	2389.57247	2339.86127	2355.86	2381.84274	2443.76444	2417.51185
Alpha BKG CPM	0.098	0.127	0.165	0.092	0.14	0.105	0.138	0.138
Alpha Efficiency	0.2567579	0.2553358	0.25243593	0.24718442	0.24887454	0.25161938	0.25816083	0.25538749
archived STDEV	0.01334123	0.01326752	0.01311671	0.01284376	0.01293165	0.01307389	0.01341399	0.01327015
Beta CPM	438.150825	444.041174	452.285947	423.234355	428.339353	425.958504	403.703756	429.892512
A>B x-talk	0.1803	0.1837	0.1893	0.1809	0.1818	0.1788	0.1652	0.1778
Data file	EAW1226H	EAW1226I	EAW1226J	EAW1226K	EAW1226L	EAW1226M	EAW1226N	EAW1226O

1/5/04

Source Database for OSUM for LB4100-B

Number of sources in table: 45

Application Revision: A

Control ID	Isotope	Type	Half-Life (days)	DPM	Std dev	Date	Status	Alpha/Beta Archive File
1121	Sr-90/Y-90	Beta	10446.15	22065.912	1103.30	18-Mar-99	PAI	Sr90R-11/03
1122	Am-241	Alpha	157861.05	11101.11	555.06	18-Mar-99	PAI	Am241-11/03
1123	Am-241	Alpha	157861.05	9624	481.20	1-Sep-93	PAI	AmWipe-11/03
1124	Sr-90/Y-90	Beta	10511.6072	37044	1852.20	10-Dec-01	PAI	SrWipe-11/03

000175

PROJECT LB4100-B

Notebook No. 1898

Continued From Page

12/11/03 JE: Complete computer back-up was performed. Scandisk was done and the computer's C:/ drive was defragged.
File name: ~~12/11~~ 12/11/03 LB4100 B

RG 12/16/03

12/26/03 JE

Am-241 wipe Calibration
Am-241 on filter

Source: 73 Source ID: 1123 log file: Am Wipe 11/03

Filenames: EAM1226, EAM1226A, EAM1226B, EAM1226C, EAM1226D, EAM1226E, EAM1226F, EAM1226G, EAM1226H, EAM1226I, EAM1226J, EAM1226K, EAM1226L, EAM1226M, EAM1226N, EAM1226O.

2→B x-talk is calculated for each detector using the following equation:
counts in Beta channels / counts in Alpha channels

12/26/03 JE

Sr-90 wipe Calibration
Sr-90 on filter

Source: 602 Source ID: 1124 log file: ~~Sr90~~ ~~6-12/26/00~~ Sr Wipe-11/03

Filenames: ESR1226, ESR1226A, ESR1226B, ESR1226C, ESR1226D, ESR1226E, ESR1226F, ESR1226G, ESR1226H, ESR1226I, ESR1226J, ESR1226K, ESR1226L, ESR1226M, ESR1226N, ESR1226O

B→2 x-talk is calculated for each detector using the following equation:
counts in ~~Beta~~ ~~276~~ 1/3/04 channels / counts in Beta channels
Alpha

Continued on Page

Read and Understood By

Claire Brown 1/2/04 Signed Date

Julie Fellingson 1/2/04 Signed Date

pg 265878 a
(cont. from pg 1A b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

SOP 7 Rev 8

Instrument: LB4100B

Date: 12/26/03

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 700	A 0.1
2 2000	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB1220W
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1	JE		P		JE		P		✓	9	JE		P		JE		P		✓
2	↓		↓		↓		↓		✓	10	↓		↓		↓		↓		✓
3	↓		↓		↓		↓		✓	11	↓		↓		↓		↓		✓
4	↓		↓		↓		↓		✓	12	↓		↓		↓		↓		✓
5	↓		↓		↓		↓		✓	13	↓		↓		↓		↓		✓
6	↓		↓		↓		↓		✓	14	↓		↓		↓		↓		✓
7	↓		↓		↓		↓		✓	15	↓		↓		↓		↓		✓
8	↓		↓		↓		↓		✓	16	↓		↓		↓		↓		✓

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Checks	NA	NA	EFB1226	30	0856	JE	JE	12/26/03	NA
1-16	BKG Checks	NA	NA	BKB1226	60	0908	JE	JE	12/26/03	
1	0312081-1	AB031222-1	α/β	ABB1226	60	10~~26~~40	JE	JE	12/26/03	
2	-1D					AU 12/26/03				
3	-1AS									
4	-1ASD									
5	-2									
6	-3									
7	AB031222-1AB									
8	-1LCS									
9	0312082-1	SR031222-2	Sr-90	SRB1226	60	10~~30~~40	JE			
10	-2					AU 12/26/03				
11	-3									
12	-4									
13	-5									
14	-6									
15	-8									✓

Form 780r6.frm (4/6/2001)

Reviewed by CJ Date 12/29/03

Comments:

000177

pg 265870 b

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Run Log

Date: 12/26/03

Instrument: LB4100B

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp Init.	Outp. Date	Cmnt Below
16	0312082-9	SR031222-2	Sr-90	SRB1226	60	1030	JE	JE	12/26/03	NA
1	0312082-10			SRB1226A	60	1230	JE	JE	12/26/03	
2	0312128-4									
3	-4D									
4	SR031222-2MB									
5	-2LCS									
6	SR031222-3LCS	SR031222-3	Sr-90	SRB1226B	60	~~1223~~ 1230	JE			
7	0312118-1	AB031222-2	2/B	ABB1226A	60	1223	JE			
8	-2									
9	-3									
10	-4									
11	-5									
12	-5D									
13	-6									
14	-7									
15	-8									
16	-9									
1	0312118-10	AB031222-2	2/B	ABB1226B	60	1339	JE	JE	12/26/03	
2	-10MS									
3	-11									
4	-12									
5	-13									
6	-13D									
7	AB031222-2MB									
8	-2LCS									
1	73	NA	Am-241 Wipe Calib.	EAW1226	10	1459	JE	JE	12/26/03	
2				A		1505	JE			

Form 780r6.frm (4/6/2001)

Reviewed _____ Date 12/29/03

Comments:

000178

pg 265879 a
(cont. from pg ~~44~~ b)
265878
12/26/03

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

SOP 72 Rev 8

Date: 12/26/03

Instrument Background and Response Checklist *See page 265878a for Daily Check info. 12/26/03

P-10 Supply	P-10 Flow
1 700	A 0.1
2 2000	B
	C
	D

Bkg.	Cal. File ID
Dr A	BkB122603
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1										~~9~~									
2										10									
3										~~11~~									
4										12									
5										13									
6										14									
7										15									
8										~~16~~									

12/26/03

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
3	73	NA	Am241 Wipe Calib	E4B1226B	10	1511	JE	JE	12/26/03	NA
4				G		1516				
5				D		1522				
6				E		1527				
7				F		1533				
8				G		1540				
9				H		1545				
10				I		1552				
11				J		1556				
12				K		1603				
13				L		1607				
14				M		1616				
15				N	12/26/03	14621				
16				O		1626				
1	602	NA	Sr90 Wipe Calib	E5W1226L	2	1523	JE	JE	12/26/03	
2				M		1524				
3				N		1526				

Form 780rG.frm (4/6/2001)

Reviewed by G. Date 12/29/03

Comments:

000179

Am-241 Standard Verification: For Gas Flow Use

Std: 73
Date 12/23/03

Known Act.:		160.4	dps	4335.1	pCi/s			
	Det	Act. (pCi/s)	Ave Act	2 Std Dev*	% Recovery	Ave Rec w/in 5% (PAI)	Ave w/in 2 Std Dev (ICPT)	2 Std Dev w/in 10% Ave (ICPT)
Count 1	2	4290			99.0%	100.7%		
Count 2	8	4430			102.2%	Pass	Pass	Pass
Count 3	3	4370	4363.33	114.70	100.8%			

*The standard deviation is calculated using "n" degrees of freedom.

r:\inst\gamma\VerOtherTests.xls(Am-241 b)

ANALYTICS

Analytics, Inc.
1550 Seaboard Industrial Boulevard
Atlanta, Georgia 30318
404 352-8677

#73

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

47007-307

Am-241 47 mm Membrane Filter in Stainless Steel Planchet

This standard radionuclide source was prepared gravimetrically from a calibrated master liquid radionuclide solution source. The master source was calibrated by liquid scintillation counting.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Source prepared by: B. D. MacDonald
B. D. MacDonald, Physicist

ISOTOPE:	Am-241
ACTIVITY (dps):	160.4
HALF-LIFE:	432.2 years
CALIBRATION DATE:	September 1, 1993 12:00 EST
TOTAL ERROR:	4.0%
SYSTEMATIC ERROR:	2.6%
RANDOM ERROR:	1.4%

43 mm active area. Low smooth bottom planchet. Source covering 0.85 mg/cm^2 mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

P O NUMBER 35829, Item 1

Q A APPROVED 9-30-93

031983D02.SPC Analyzed by 73

****

SEEKER G A M M A A N A L Y S I S R E S U L T S PS Version 1.8.4

Paragon Analytics, Inc.
GammaScan

****

Geo.7 / Filter

Sample ID: Std #73 Verif #1

Sampling Start:	09/01/1993 08:00:00	Counting Start:	12/23/2003 13:00:46
Sampling Stop:	09/01/1993 08:00:00	Decay Time.	9.04E+004 Hrs
Buildup Time.	0.00E+000 Hrs	Live Time	1800 Sec
Sample Size	1.00E+000 sample	Real Time	1811 Sec
Collection Efficiency	1.0000	Spc. File	031983D02.SPC

Detector #: 2 (Detector 2)

Energy(keV) = -0.74 + 0.500*Ch + 0.00E+00*Ch^2 + 0.00E+00*Ch^3 12/23/2003

FWHM(keV) = 0.57 + 0.018*En + 4.33E-04*En^2 + 0.00E+00*En^3 01/03/2003

Where En = Sqrt(Energy in keV)

Search Sensitivity: 1.00 | Sigma Multiplier: 2.00 | Search Start/End: 95/4000

PEAK SEARCH RESULTS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET/MDA COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	59.54	120.45	1472	80	18	64	0.74	a
2	92.46	186.22	15	11	6	10	0.39	a
3	510.84	1022.25	21	18	13	24	2.06	a Wide Pk

031983D02.SPC Analyzed by

****

SEEKER . B A C K G R O U N D S U B T R A C T R E S U L T S Vers. 2.2.1

Paragon Analytics, Inc.
GammaScan

****

Background File:. . . . . DET021218.BKG (0324008-22 Weekly Bkg.)

Bkg.File Detector #: 2

==========

BACKGROUND SUBTRACT RESULTS

==========

PK#	ENERGY (keV)	OLD NET COUNTS	OLD UN-CERTAINTY	OLD CR.LEVEL	NEW NET COUNTS	NEW UN-CERTAINTY	NEW CR.LEVEL	FLAG
2	92.46	15	11	6	5	12	9	NET<CL
3	510.84	21	18	13	-22	20	18	NET<CL

031983D02.SPC Analyzed by

****

SEEKER F I N A L A C T I V I T Y R E P O R T Version 2.2.1

Paragon Analytics, Inc.
GammaScan

****

Geo.7 / Filter

Sample ID: Std #73 Verif

Sampling Start:	09/01/1993 08:00:00	Counting Start:	12/23/2003 13:00:46
Sampling Stop:	09/01/1993 08:00:00	Decay Time.	9.04e+004 Hrs
Buildup Time.	0.00e+000 Hrs	Live Time	1800 Sec
Sample Size	1.00e+000 sample	Real Time	1811 Sec
Collection Efficiency	1.0000	Spectrum File	.031983D02.SPC
Cr. Level Confidence Interval:	95 %	Det. Limit Confidence Interval:	95 %

Detector #: 2 (Detector 2)

Efficiency File: (D02)(Sh07).EFF (Geo 7 Eff Cal)

Eff.=1/[3.98E-04*En^-4.25E+00 + 6.03E+01*En^8.84E-01] 10/23/2003

Library File: . . . .ANALYTICAL.LIB (Analytical)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY (keV)	NET	Concentration (pCi/sample)	MDA	Critical Level	Halflife (hrs)
Am-241	59.54		4.29E+03 +- 2.32E+02	1.12E+02	5.20E+01	3.79E+06
Cd-109	88.02		MDA	4.65E+04	2.03E+04	1.11E+04
Co-57	122.07		MDA	6.62E+04	2.86E+04	6.50E+03
Ce-139	165.85		MDA	7.73E+08	3.30E+08	3.30E+03
Hg-203	279.18		MDA	1.69E+25	7.36E+24	1.12E+03
Sn-113	391.68		MDA	7.86E+10	3.35E+10	2.76E+03
Cs-137	661.62		MDA	1.12E+01	4.35E+00	2.64E+05
Y-88	898.02		MDA	6.39E+11	2.68E+11	2.56E+03
Co-60	1173.21		MDA	5.30E+01	2.10E+01	4.62E+04

MEASURED TOTAL: 4.29E+03 +- 2.32E+02 pCi/sample

UNKNOWN,SUM or ESCAPE PEAKS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
2	92.46	186.22	5	12	9	10	0.39	Deleted
3	510.84	1022.25	-22	20	18	24	2.06	Deleted

031863D08.SPC Analyzed by 77

****

SEEKER G A M M A A N A L Y S I S R E S U L T S PS Version 1.8.4

Paragon Analytics, Inc.
GammaScan

****

Geo.7 / Filter

Sample ID: Std #73 Verif #2

Sampling Start:	09/01/1993 12:00:00	Counting Start:	12/23/2003 14:28:01
Sampling Stop:	09/01/1993 12:00:00	Decay Time.	9.04E+004 Hrs
Buildup Time.	0.00E+000 Hrs	Live Time	1800 Sec
Sample Size	1.00E+000 sample	Real Time	1814 Sec
Collection Efficiency	1.0000	Spc. File	031863D08.SPC

Detector #: 8 (Detector 8)

Energy(keV) = -0.30 + 0.500*Ch +-2.15E-08*Ch^2 + 5.68E-11*Ch^3 12/23/2003

FWHM(keV) = 0.72 + 0.014*En + 5.05E-04*En^2 + 0.00E+00*En^3 01/02/2003

Where En = Sqrt(Energy in keV)

Search Sensitivity: 1.00 | Sigma Multiplier: 2.00 | Search Start/End: 95/4000

PEAK SEARCH RESULTS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET/MDA COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	59.51	119.62	6649	167	29	174	0.78	a HiResid
2	511.36	1023.16	43	22	14	30	2.04	a

031863D08.SPC Analyzed by

****

SEEKER B A C K G R O U N D S U B T R A C T R E S U L T S Vers. 2.2.1

Paragon Analytics, Inc.
GammaScan

****

Background File:. . . . . DET081218.BKG (0324008-28 Weekly Bkg.)

Bkg.File Detector #: 8

==========

BACKGROUND SUBTRACT RESULTS

==========

PK#	ENERGY (keV)	OLD NET COUNTS	OLD UN-CERTAINTY	OLD CR.LEVEL	NEW NET COUNTS	NEW UN-CERTAINTY	NEW CR.LEVEL	FLAG
2	511.36	43	22	14	-6	23	19	NET<CL

031863D08.SPC Analyzed by

****

SEEKER F I N A L A C T I V I T Y R E P O R T Version 2.2.1

Paragon Analytics, Inc.
GammaScan

****

Geo.7 / Filter

Sample ID: Std #73 Verif #2

Sampling Start:	09/01/1993 12:00:00	Counting Start:	12/23/2003 14:28:01
Sampling Stop:	09/01/1993 12:00:00	Decay Time.	9.04e+004 Hrs
Buildup Time.	0.00e+000 Hrs	Live Time	1800 Sec
Sample Size	1.00e+000 sample	Real Time	1814 Sec
Collection Efficiency	1.0000	Spectrum File	.031863D08.SPC
Cr. Level Confidence Interval:	95 %	Det. Limit Confidence Interval:	95 %

Detector #: 8 (Detector 8)

Efficiency File: (D08)(Sh07).EFF (Geo 7 Eff Cal)

Eff.=1/[5.93E-02*En^-1.85E+00 + 7.21E+01*En^9.67E-01] 10/29/2003

Library File: . . . .ANALYTICAL.LIB (Analytical)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY (keV)	NET	Concentration (pCi/sample)	MDA	Critical Level	Halflife (hrs)
Am-241	59.54		4.43E+03 +- 1.11E+02	4.09E+01	1.96E+01	3.79E+06
Cd-109	88.02		MDA	3.43E+04	1.53E+04	1.11E+04
Co-57	122.07		MDA	9.29E+04	4.20E+04	6.50E+03
Ce-139	165.85		MDA	1.21E+09	5.41E+08	3.30E+03
Hg-203	279.18		MDA	1.88E+25	8.21E+24	1.12E+03
Sn-113	391.68		MDA	7.96E+10	3.33E+10	2.76E+03
Cs-137	661.62		MDA	2.03E+01	8.71E+00	2.64E+05
Y-88	898.02		MDA	7.56E+11	3.18E+11	2.56E+03
Co-60	1173.21		MDA	4.79E+01	1.73E+01	4.62E+04

MEASURED TOTAL: 4.43E+03 +- 1.11E+02 pCi/sample

UNKNOWN,SUM or ESCAPE PEAKS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
2	511.36	1023.16	-6	23	19	30	2.04	Deleted

031552D03.SPC Analyzed by

****

SEEKER G A M M A A N A L Y S I S R E S U L T S PS Version 1.8.4

Paragon Analytics, Inc.
GammaScan

****

Geo.7 / Filter

Sample ID: Std #73 Verif #3

Sampling Start:	09/01/1993 12:00:00	Counting Start:	12/23/2003 16:52:24
Sampling Stop:	09/01/1993 12:00:00	Decay Time.	9.04E+004 Hrs
Buildup Time.	0.00E+000 Hrs	Live Time	1800 Sec
Sample Size	1.00E+000 sample	Real Time	1832 Sec
Collection Efficiency	1.0000	Spc. File	.031552D03.SPC

Detector #: 3 (Detector 3)

Energy(keV) = -0.81 + 0.501*Ch + 0.00E+00*Ch^2 + 0.00E+00*Ch^3 12/23/2003

FWHM(keV) = 0.77 + 0.011*En + 7.64E-04*En^2 + 0.00E+00*En^3 06/26/2003

Where En = Sqrt(Energy in keV)

Search Sensitivity: 1.00 | Sigma Multiplier: 2.00 | Search Start/End: 95/4000

PEAK SEARCH RESULTS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET/MDA COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	59.59	120.60	2039	95	24	121	0.84	a
2	92.67	186.64	22	12	7	12	0.54	a
3	510.77	1021.33	43	20	12	23	2.04	a

031552D03.SPC Analyzed by

****

SEEKER B A C K G R O U N D S U B T R A C T R E S U L T S Vers. 2.2.1

Paragon Analytics, Inc.
GammaScan

****

Background File:. . . . . DET031218.BKG (0324008-23 Weekly Bkg.)

Bkg.File Detector #: 3

==========

BACKGROUND SUBTRACT RESULTS

==========

PK#	ENERGY (keV)	OLD NET COUNTS	OLD UN-CERTAINTY	OLD CR.LEVEL	NEW NET COUNTS	NEW UN-CERTAINTY	NEW CR.LEVEL	FLAG
2	92.67	22	12	7	4	14	11	NET<CL
3	510.77	43	20	12	-3	21	18	NET<CL

031552D03.SPC Analyzed by

****

SEEKER F I N A L A C T I V I T Y R E P O R T Version 2.2.1

Paragon Analytics, Inc.
GammaScan

****

Geo.7 / Filter

Sample ID: Std #73 Verif #3

Sampling Start:	09/01/1993 12:00:00	Counting Start:	12/23/2003 16:52:24
Sampling Stop:	09/01/1993 12:00:00	Decay Time.	9.04e+004 Hrs
Buildup Time.	0.00e+000 Hrs	Live Time	1800 Sec
Sample Size	1.00e+000 sample	Real Time	1832 Sec
Collection Efficiency	1.0000	Spectrum File	.031552D03.SPC
Cr. Level Confidence Interval:	95 %	Det. Limit Confidence Interval:	95 %

Detector #: 3 (Detector 3)

Efficiency File: (D03)(Sh07).EFF (Geo 7 Eff Cal)

Eff.=1/[8.04E-04*En^-3.88E+00 + 6.88E+01*En^9.22E-01] 11/11/2003

Library File: . . . .ANALYTICAL.LIB (Analytical)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY (keV)	NET	Concentration (pCi/sample)	MDA	Critical Level	Halflife (hrs)
Am-241	59.54		4.37E+03 +- 2.04E+02	1.11E+02	5.25E+01	3.79E+06
Cd-109	88.02		MDA	5.68E+04	2.57E+04	1.11E+04
Co-57	122.07		MDA	8.15E+04	3.62E+04	6.50E+03
Ce-139	165.85		MDA	9.23E+08	4.01E+08	3.30E+03
Hg-203	279.18		MDA	1.72E+25	7.46E+24	1.12E+03
Sn-113	391.68		MDA	8.53E+10	3.63E+10	2.76E+03
Cs-137	661.62		MDA	1.56E+01	6.39E+00	2.64E+05
Y-88	898.02		MDA	9.16E+11	4.00E+11	2.56E+03
Co-60	1173.21		MDA	5.00E+01	1.87E+01	4.62E+04

MEASURED TOTAL: 4.37E+03 +- 2.04E+02 pCi/sample

UNKNOWN, SUM or ESCAPE PEAKS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
2	92.67	186.64	4	14	11	12	0.54	Deleted
3	510.77	1021.33	-3	21	18	23	2.04	Deleted

Paragon Analytics, Inc.

Gamma Spectrometer Run Log

Date: 12-23-03 Reviewed By/Date: 77 12-23-03

Sample ID	Ver[1]	Det. No.	Geo[2]	Count Dur. (min.)[3]	Start Time	Analyst	File ID/Comments	Exported?
03 10 127-8	77	3	26	30	11:50	77	031548D03.SPC	77
03 24 019-10	77	10	9*	45	12:16	77	031954D10.SPC	77
GS02335LCS1	77	3	17	30	12:43	77	031549D03.SPC	77
" LCS2	"	6	26	"	"	"	031683D06.SPC	"
Empty 565	"	87	13	30	12:59	77	031824D07.SPC	" 77 12-23-03
Std # 73	"	2	**7	30	13:00	77	031983D02.SPC	"
Std # 601	"	8	"	"	"	"	031862D08.SPC	"
03 24 019-S10	"	10	9*	30	13:06	77	031955D10.SPC	"
Std # 73	77	8	**7	30	14:28	77	031863D08.SPC	77
Std # 601	"	2	"	"	"	"	031984D02.SPC	"
03 12 042-1	—	7	13	1000	14:33	77	—	—
" -1D	—	10	"	"	"	"	—	—
GS031212-2MB	77	6	"	"	"	"	—	77
03 10 126-2	—	3	13	—	14:33	77	—	77 12-23-03
Std # 601	77	3	**7	30	16:14	77	031550D03.SPC	77
03 24 019-3F	"	2	NA	30	16:15	77	031985D02.SPC	"
" -4	77	"	"	"	16:52	77	031986D02.SPC	77
Std # 73	"	3	**7	30	16:52	77	031551D03.SPC	"
							77 12-23-03	

[1] Analyst will verify the position, detector, and geometry when the sample is removed from the detector.

[2] Calibration geometry. * New Geometry blank 1/2 of Sheet

[3] Count Duration. ** Counted on peak 77 12-23-03

267683

B

Form 734rev.frm 9/19/2000

LB4100-B Raw counts for Sr-90 Wipe Efficiency Calibrations (Control ID #1124)

Detector ID	A1	A2	A3	A4	B1	B2	B3	B4
total time	0.7	0.7	0.69	0.69	0.68	0.67	0.68	0.69
total counts	10117	10115	10107	10051	10066	10082	10093	10124
Beta CPM	14451.4241	14448.52	14646.3581	14565.2047	14801.2072	15046.1262	14840.9191	14670.8148
Beta BKG CPM	1.433	1.48	1.468	1.462	1.734	1.635	1.728	1.649
Beta Efficiency	0.40980287	0.40972054	0.41533073	0.41302949	0.41972161	0.42666688	0.4208478	0.41602375
archived STDEV	0.02128958	0.02128538	0.02157715	0.02145978	0.02180691	0.0221671	0.02186435	0.0216125
Alpha CPM	41.3295714	51.2815714	49.1733623	47.703087	20.4462353	35.7048955	26.2685882	27.3982319
B>A x-talk	0.0029	0.0035	0.0034	0.0033	0.0014	0.0024	0.0018	0.00186753
Data file	ESW1226L	ESW1226M	ESW1226N	ESW1226O	ESW1226H	ESW1226I	ESW1226J	ESW1226K

Detector ID	C1	C2	C3	C4	D1	D2	D3	D4
total time	0.68	0.68	0.69	0.68	0.69	0.67	0.69	0.66
total counts	10076	10059	10110	10068	10115	10035	10092	10017
Beta CPM	14815.9921	14791.0361	14650.5219	14804.3504	14657.8773	14975.5419	14624.181	15175.5227
Beta BKG CPM	1.655	1.611	1.652	1.532	1.543	2.07	1.906	1.906
Beta Efficiency	0.42014058	0.41943292	0.41544836	0.41981057	0.41565703	0.42466516	0.41470157	0.43033614
archived STDEV	0.02182828	0.02179218	0.02158316	0.02181144	0.02159379	0.02206505	0.02154509	0.02236041
Alpha CPM	42.5490588	41.0494706	52.008913	16.0844706	52.033913	40.1935075	34.6446087	48.3638485
B>A x-talk	0.0029	0.0028	0.0035	0.0011	0.0035	0.0027	0.0024	0.0032
Data file	ESW1226	ESW1226A	ESW1226B	ESW1226C	ESW1226D	ESW1226E	ESW1226F	ESW1226G

AE 1/5/04

Source Database for OSUM for LB4100-B

Number of sources in table: 45

Application Revision: A

Control ID	Isotope	Type	Half-Life (days)	DPM	Std dev	Date	Status	Alpha/Beta Archive File
1121	Sr-90/Y-90	Beta	10446.15	22065.912	1103.30	18-Mar-99	PAI	Sr90R-11/03
1122	Am-241	Alpha	157861.05	11101.11	555.06	18-Mar-99	PAI	Am241-11/03
1123	Am-241	Alpha	157861.05	9624	481.20	1-Sep-93	PAI	AmWipe-11/03
1124	Sr-90/Y-90	Beta	10511.6072	37044	1852.20	10-Dec-01	PAI	SrWipe-11/03

000193

12/11/03 JE Complete computer back-up was performed. Scandisk was done and the computer's C/ drive was defragged
File name ~~12/11~~ 12/11/03 LB4100 B
~~JE 12/11/03~~
PG 12/16/03

12/24/03 JE **Am 241 wipe Calibration**
Am-241 on filter

Source: 73 Source ID: 1123 log file: Am Wipe 1/03

Filenames: EAM1226, EAM1226A, EAM1226B, EAM1226C, EAM1226D, EAM1226E, EAM1226F, EAM1226G, EAM1226H, EAM1226I, EAM1226J, EAM1226K, EAM1226L, EAM1226M, EAM1226N, EAM1226O.

α→β x-talk is calculated for each detector using the following equation:
counts in Beta channels / counts in Alpha channels

12/26/03 JE **Sr-90 wipe Calibration**
Sr-90 on filter

Source: 602 Source ID: 1124 log file: ~~Sr 90~~ 12/26/00 Sr Wipe-1/03

Filenames: ESR1226, ESR1226A, ESR1226B, ESR1226C, ESR1226D, ESR1226E, ESR1226F, ESR1226G, ESR1226H, ESR1226I, ESR1226J, ESR1226K, ESR1226L, ESR1226M, ESR1226N, ESR1226O.

β→α x-talk is calculated for each detector using the following equation:
counts in ~~Beta~~ Alpha channels / counts in Beta channels

Continued on Page

Read and Understood By

Clare Lynch 1/2/04 Signed Date
Julie Fillingim 1/2/04 Signed

pg 265878 a
(cont. from pg 1A b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: LB4100B

SOP Rev 8

Date: 12/26/03

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 700	A 0.1
2 2000	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB1220 ✓
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1	JE		P		JE		P		✓	9	JE		P		JE		P		✓
2	↓		↓		↓		↓		✓	10	↓		↓		↓		↓		✓
3	↓		↓		↓		↓		✓	11	↓		↓		↓		↓		✓
4	↓		↓		↓		↓		✓	12	↓		↓		↓		↓		✓
5	↓		↓		↓		↓		✓	13	↓		↓		↓		↓		✓
6	↓		↓		↓		↓		✓	14	↓		↓		↓		↓		✓
7	↓		↓		↓		↓		✓	15	↓		↓		↓		↓		✓
8	↓		↓		↓		↓		✓	16	↓		↓		↓		↓		✓

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Checks	NA	NA	EFB1226	30	0856	JE	JE	12/26/03	NA
1-16	BKG Checks	NA	NA	BKB1226	60	0908	JE	JE	12/26/03	
1	03120081-1	ABO31222-1	α/β	ABB1226	60	10~~06~~42	JE	JE	12/26/03	
2	-1D					12/26/03				
3	-1AS									
4	-1MSD									
5	-2									
6	-3									
7	ADO31222-1AB									
8	-1LCS									
9	03120082-1	SRO31222-2	Sr-90	SRB1226	60	103~~0~~40	JE			
10	-2					12/26/03				
11	-3									
12	-4									
13	-5									
14	-6									
15	-8									

Form 780r6.frm (4/6/2001)

Reviewed by [signature] Date 12/29/03

Comments:

000195

pg 265878 b

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Run Log

Date: 12/26/03

Instrument: **LB4100B**

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp Init.	Outp. Date	Cmnt Below
16	0312082-9	SR031222-2	51-90	SRB1226	60	1030	JE	JE	12/26/03	NA
1	0312082-10			SRB1226A	60	1230	JE	JE	12/26/03	
2	0312128-4									
3	-4D									
4	SR031222-2LB									
5	-2LCS									
6	SR031222-3LCS	SR031222-3	51-90	SRB1226B	60	~~1223~~ 1230	JE			
7	0312118-1	ABO31222-2	2/B	ABB1226A	60	1223	JE			
8	-2									
9	-3									
10	-4									
11	-5									
12	-5D									
13	-6									
14	-7									
15	-8									
16	-9									
1	0312118-10	ABO31222-2	2/B	ABB1226B	60	1339	JE	JE	12/26/03	
2	-10/15									
3	-11									
4	-12									
5	-13									
6	-13D									
7	ABO31222-2MB									
8	-2LCS									
1	73	NA	Am-241 Wipe Calib.	EAW1226	10	1459	JE	JE	12/26/03	
2				A		1505	JE			

Form 780r6.frm (4/6/2001)

Reviewed _____ Date 12/29/03

Comments:

000196

pg 265879 a
(cont. from pg ~~44~~ b)
265878
12/26/03

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100B**

SOP Rev 8

Date: 12/26/03

Instrument Background and Response Checklist *See page 265878a for Daily Check info. 12/26/03

P-10 Supply	P-10 Flow
1 750	A 0.1
2 2000	B
	C
	D

Bkg.	Cal. File ID
Dr A	Bk B1220
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1										~~9~~									
2										10									
3										~~11~~									
4										12									
5										13									
6										14									
7										15									
8										~~16~~									

12/26/03

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmplID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cnnt Below
3	73	NA	Am241 4.μ Calb	EA121226B	10	1511	JE	JE	12/26/03	NA
4				G		1516				
5				D		1522				
6				E		1527				
7				F		1533				
8				G		1540				
9				H		1545				
10				I		1552				
11				J		1556				
12				K		1603				
13				L		1607				
14				M		1616				
15				N		12/24/03 14621				
16				O		1626				
1	602	NA	Sr90 4.μ Calb	ESr121226L	2	1523	JE	JE	12/26/03	
2				M		1524				
3				N		1526				

Form 780r6.frm (4/6/2001)

Reviewed by G Date 12/29/03

Comments:

000197

pg 265879 b

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Run Log

Date: 12/26/03

Instrument: LB4100B

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
4	602	N.A	~~Sr-90 wip Calk~~	ESW1226 O	2	1529	JE	JE	12/26/03	NA
5			Sr-90 wip Calk	H		1515				
6				I		1517				
7				J		1519				
8				K		1520				
9				ESW1226		1500				
10				A		1501				
11				B		1503				
12				C		1506				
13				D		1508				
14				E		1509				
15				F		1512				
16				G		1513				
1.1	BKG Check	NA	NA	BKB1226A	60	1633	JE	JE	12/26/03	
1	0310215-16	SR031210-2	Sr-90	SRB1226C	1000	1748	JE	JE	12/27/03	
2	-17									
3	-18									
4	-19									
5	-20									
6	-21									
7	-21D									
8	-22									
9	SR031210-2.4B									
10	-2LCS									
11	0312081-1	SR031222-1	Sr-90	SRB1226D	200	1751	JE			
12	-1D									
13	-2									
14	-3									
15	SR031222-1.4B									
16	-1LCS									

Form 780r6.frm (4/6/2001)

Comments:

Reviewed ~~JE~~ Date 12/27/03

1751 JE JE 12/27/03 NA

000198

ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 · U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

FAI ID 0602
rec'd HO 12-11-01
EW 12-14-01

62753A-307

Sr-90 47 mm Diameter Membrane Filter in Stainless Steel Planchet

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by the Department Des Applications Et De La Metrologie Des Rayonnements Ionisants (DAMRI), Paris, France, as Number 25931.

Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry and liquid scintillation counting. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Sr-90
ACTIVITY (dps):	308.7
HALF-LIFE:	28.79 years
CALIBRATION DATE:	December 10, 2001 12:00 EST
TOTAL UNCERTAINTY*:	5.0%

*99% Confidence Level

Impurities: γ-impurities <0.1%

43 mm active area. Low smooth bottom. Source covering 0.85 mg/cm^2 mylar.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta emission rate for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 3.19 hours.

P O NUMBER 001703, Item 3

PREPARED BY: M Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED: VM Moty 12-10-01

New Standard Verification

WO#

Date 12/21/03

Previously Verified Standard

STD 602		
Nuclide	Sr-90	
Half Life	28.78	
Init. Activity	37044	dpm
Ref. Date	12/10/01	
Vol.	1.0	
Current Spiked Act.	35277.50	dpm

Standard to be Verified

STD 729		
Nuclide	Sr-90	
Half Life	28.78	y
Init. Activity	41400	dpm
Ref. Date	10/21/03	
Vol.	1.000	
Current Spiked Act.	41233.81	dpm

Standards Sample ID	Pos.	GCPM	BCPM	NCPM	% Yield	DPM Added	Eff.	Ave. Eff.	Calibrated Efficiency	Calc DPM	Avg. DPM	2 StdDev	Obs w/in 5% of Cert. (PAI Req.)	Cert. Value w/in 2sig (ICPT Req.)	2sig<10% of mean (ICPT Req.)
602	D1	14798.60	1.54	14797.06	100%	35277.50	0.4194		0.4195						
602	D2	14789.40	2.07	14787.33	100%	35277.50	0.4192		0.4195						
602	D3	14812.00	1.91	14810.09	100%	35277.50	0.4198	0.4195	0.4195						
729	D1	17396.20	1.54	17394.66	100%	41233.81	0.4219		0.4195	41467.32					
729	D2	17555.60	2.07	17553.53	100%	41233.81	0.4257		0.4195	41846.06					
729	D3	17515.20	1.91	17513.29	100%	41233.81	0.4247	0.4241	0.4195	41750.14	41687.84	321.55	PASS 1.01	HIGH	PASS

r:\instr\gfpswipe

OK RG 12/24/03.
Requires NCR for ICPT work.

002000

PAI - Gas Flow Proportional Sample Analysis LB4100-B

Unit Type:	LB4100 -B	Data file name:	SRB1221	Background logfile:	BKGABW
Counting Unit ID:	Aqua	Batch ID:	VER	Date of Bkg. Cal:	12/21/03
High Voltage Mode:	Simultaneous	Count Preset (m):	5	Alpha efficiency logfile:	Am241-11/03
Application Revision:	2	Batch Ended:	12/21/03 11:56	Alpha attenuation calibration:	ABA1103.XLS
Application Version:	Standard			Beta efficiency logfile:	Sr90R-11/03
Rev. 07/29/03 JE				Beta attenuation calibration:	ABA1103.XLS

Alpha prog. logfile:	n/a
Alpha prog. attenuation:	n/a
Beta prog. logfile:	n/a
Beta prog. attenuation:	n/a

y = b*m^(a*(mass-x0))		y = b*m^(a*(mass-x0))	
Alpha b=	1.24550	Beta b=	1.0000
m=	0.99400	m=	0.9999
a=	1.0000	a=	1.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk	
y = m*b^-mass		y = m*mass + b	
a ->b xtalk m=	0.2740	b ->a xtalk m=	-2.00E-06
a ->b xtalk b=	1.0010	b ->a xtalk b=	0.0007

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
D1	602	12/21/03 11:56	5.00	0.0	27.400	0.140	10.359	0.2111	1.246	n/a	n/a	14798.600	1.543	7.508	0.4115	1.000	n/a	n/a
D2	729	12/21/03 11:56	5.00	0.0	28.200	0.105	12.289	0.2101	1.246	n/a	n/a	17565.600	2.070	7.727	0.4102	1.000	n/a	n/a

JE
12/23/03

000201

PAI - Gas Flow Proportional Sample Analysis

Unit Type: LB4100-B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev. 07/29/03 JE

Data file name: SRB1221A
Batch ID: VER
Count Preset (m): 5
Batch Ended: 12/21/03 12:02

Backgrou : BKGABW
Date of : 12/21/03
Alpha efficiency logfile: Am241-11/03
Alpha attenuation calibration: ABA1103.XLS
Beta efficiency logfile: Sr90R-11/03
Beta attenuation calibration: ABA1103.XLS

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

y = b*m*(a*mass+x0)		y = b*m*(b*mass+x0)	
Alpha b=	1.24550	Beta b=	1.0000
m=	0.99400	m=	0.9999
a=	1.0000	a=	1.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m*b^-mass		Beta to Alpha X-talk y = m*mass + b	
a ->b xtalk m=	0.2740	b ->a xtalk m=	-2.00E-06
a ->b xtalk b=	1.0010	b ->a xtalk b=	0.0007

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
D2	602	12/21/03 12:02	5.00	0.0	25.600	0.105	10.353	0.2101	1.246	n/a	n/a	14789.400	2.070	7.014	0.4102	1.000	n/a	n/a
D3	729	12/21/03 12:02	5.00	0.0	31.400	0.138	12.261	0.2103	1.246	n/a	n/a	17515.200	1.906	8.604	0.4195	1.000	n/a	n/a

SG 12/23/03

202000

PAI - Gas Flow Proportional Sample Analysis LB 4100 -B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev. 07/29/03 JE

Data file name: SRB1221B
Batch ID: VER
Count Preset (m): 5
Batch Ended: 12/21/03 12:09

Background logfile: BKGABW
Date of Bkg. Cal: 12/21/03
Alpha efficiency logfile: Am241-11/03
Alpha attenuation calibration: ABA1103.XLS
Beta efficiency logfile: Sr90R-11/03
Beta attenuation calibration: ABA1103.XLS

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

y = b*m^(a*(mass-x0))		y = b*m^(a*(mass-x0))	
Alpha b=	1.24550	Beta b=	1.0000
m=	0.99400	m=	0.9999
a=	1.0000	a=	1.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m*b^-mass		Beta to Alpha X-talk y = m*mass +b	
a ->b xtalk m=	0.2740	b ->a xtalk m=	-2.00E-05
a ->b xtalk b=	1.0010	b ->a xtalk b=	0.0007

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
D1	729	12/21/03 12:09	5.00	0.0	30.400	0.140	12.177	0.2111	1.246	n/a	n/a	17396.200	1.543	8.330	0.4115	1.000	n/a	n/a
D3	602	12/21/03 12:09	5.00	0.0	26.200	0.138	10.368	0.2103	1.246	n/a	n/a	14812.000	1.906	6.805	0.4195	1.000	n/a	n/a

FG 12/23/03

000203

pg 265874 a
(cont. from pg NA b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: LB4100B

SOP (Rev 8

Date: 12/21/03

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 700	A 0.1
2 800	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB1221
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1	JE		P		NP		*		✓	9	JE		P		NP		*		✓
2									✓	10		JE	R	P					✓
3									✓	11			P						✓
4									✓	12									✓
5									✓	13									✓
6									✓	14									✓
7									✓	15									✓
8	✓				✓		✓		✓	16	✓		✓		✓				✓

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp Init.	Outp. Date	Cmnt Below
1-16	DR Check	NA	NA	EFB1221	30	1112	JE	JE	12/21/03	NA
16	DR Recount	NA	NA	EFB1221A	30	1125	JE	JE	12/21/03	
1	03 12072-1	AB 03 1215-3	2 P	ABB1221	1000	1132	JE	JE	12/22/03	JE 12/22/03
2	-1D									
3	.2									
4	.2MS									
5	A 03 1215-3MB									
6	-3LCS									
13 13	602	–	Sr-90 wipe Vec	SRB1221	5	1151	JE	JE	12/21/03	
14 14	729	–								
159	73	–	Am-241 wipe Vec	AMB1221	5	1151	JE			
10	601	–								
14 10	602	–	Sr-90 wipe Vec	SRB1221A	5	1157	JE	JE	12/21/03	
15 11	729	–								
13 10	73	–	Am-241 wipe Vec	AMB1221A	5	1158	JE			
14 11	601	–								
15 15	602	–	Sr-90 wipe Vec	SRB1221B	5	1204	JE	JE	12/21/03	

Form 780r6.frm (4/6/2001)

Reviewed by JE Date 12/22/03

Comments: * Since Weekly BKG just finished, daily BKG were not done. JE 12/21/03

000204

Low Background Gas Flow Proportional Counter Run Log

Date: 12/21/03

Instrument: LB4100B

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
13	729	—	Sr-90 wipe Vol	SRD1221B	5	1204	JE	JE	12/21/03	NA
11	~~[illegible]~~ 73	—	Am241 wipe Vol	AMB1221B	5	1205	JE			
9	601	—								

12/22/03

Form 780r6.frm (4/6/2001)

Reviewed [illegible] Date 12/22/03

Comments:

030104-28-01	GROSS BETA	0.14	DPM/sample	1.39	N	U	P
030104-28-02	GROSS BETA	-0.12	DPM/sample	1.37	N	U	P
030104-28-03	GROSS BETA	0.16	DPM/sample	1.42	N	U	P
030104-28-04	GROSS BETA	1.01	DPM/sample	1.42	N	U	P
030104-28-04-LR	GROSS BETA	0.71	DPM/sample	1.4	N	UNC	P
030104-28-05	GROSS BETA	-0.14	DPM/sample	1.43	N	U	P
030104-28-06	GROSS BETA	0.58	DPM/sample	1.49	N	U	P
030104-28-07	GROSS BETA	0.26	DPM/sample	1.47	N	U	P
030104-28-08	GROSS BETA	0.66	DPM/sample	1.45	N	U	P
030104-28-09	GROSS BETA	0.01	DPM/sample	1.42	N	U	P
030104-28-10	GROSS BETA	0.26	DPM/sample	1.44	N	U	P
030104-28-11	GROSS BETA	0.51	DPM/sample	1.64	N	U	P
030104-28-12	GROSS BETA	0.38	DPM/sample	1.58	N	U	P
030104-28-13	GROSS BETA	0.34	DPM/sample	1.36	N	U	P
030104-28-14	GROSS BETA	1.14	DPM/sample	1.54	N	U	P
030104-28-14-LR	GROSS BETA	1.13	DPM/sample	1.37	N	UNC	P
030104-28-15	GROSS BETA	-0.2	DPM/sample	1.4	N	U	P
030104-28-16	GROSS BETA	-0.49	DPM/sample	1.49	N	U	P
030104-28-17	GROSS BETA	0.68	DPM/sample	1.45	N	U	P
030104-28-18	GROSS BETA	0.59	DPM/sample	1.46	N	U	P
030104-28-19	GROSS BETA	0.5	DPM/sample	1.43	N	U	P
030104-28-20	GROSS BETA	0.8	DPM/sample	1.47	N	U	P
030104-28-20FD	GROSS BETA	0.69	DPM/sample	1.46	N	U	P
030104-28-21	GROSS BETA	0.62	DPM/sample	1.41	N	U	P
030104-28-22	GROSS BETA	0.42	DPM/sample	1.36	N	U	P
030104-28-23	GROSS BETA	0.02	DPM/sample	1.37	N	U	P
030104-28-24	GROSS BETA	0.6	DPM/sample	1.39	N	U	P
030104-28-25	GROSS BETA	0.85	DPM/sample	1.4	N	U	P
030104-28-26	GROSS BETA	0.44	DPM/sample	1.49	N	U	P
030104-28-26-LR	GROSS BETA	0.17	DPM/sample	1.41	N	UNC	P
030104-28-27	GROSS BETA	0.45	DPM/sample	1.45	N	U	P
030104-28-28	GROSS BETA	0.74	DPM/sample	1.46	N	U	P
030104-28-29	GROSS BETA	0.05	DPM/sample	1.43	N	U	P
030104-28-30	GROSS BETA	0.79	DPM/sample	1.46	N	U	P
030104-28-31	GROSS BETA	0.32	DPM/sample	1.66	N	U	P
030104-28-32	GROSS BETA	0.15	DPM/sample	1.54	N	U	P
030104-28-33	GROSS BETA	0.86	DPM/sample	1.35	N	U	P
030104-28-34	GROSS BETA	0.33	DPM/sample	1.37	N	U	P
030104-28-35	GROSS BETA	0.11	DPM/sample	1.38	N	U	P
030104-28-36	GROSS BETA	-0.13	DPM/sample	1.54	N	U	P
030104-28-36FD	GROSS BETA	0.31	DPM/sample	1.49	N	U	P
030104-28-36-LR	GROSS BETA	0.41	DPM/sample	1.4	N	UNC	P
030104-28-37	GROSS BETA	0.86	DPM/sample	1.49	N	U	P
030104-28-38	GROSS BETA	0.4	DPM/sample	1.45	N	U	P
030104-28-39	GROSS BETA	0.59	DPM/sample	1.46	N	U	P
030104-28-40	GROSS BETA	0.55	DPM/sample	1.43	N	U	P
030104-28-41	GROSS BETA	1.13	DPM/sample	1.54	N	U	P
030104-28-42	GROSS BETA	0.89	DPM/sample	1.36	N	U	P
030104-28-43	GROSS BETA	0.44	DPM/sample	1.66	N	U	P
030104-28-44	GROSS BETA	0.06	DPM/sample	1.46	N	U	P
030104-28-45	GROSS BETA	0.04	DPM/sample	1.44	N	U	P

030104-28-45FD	GROSS BETA	0.02	DPM/sample	1.47	N	U	P
030104-28-45-LR	GROSS BETA	0.52	DPM/sample	1.41	N	UNC	P
030104-28-46	GROSS BETA	0.52	DPM/sample	1.47	N	U	P
030104-28-FB	GROSS BETA	0.45	DPM/sample	1.4	N	U	P

030104-28-01	GROSS ALPHA	-0.01	DPM/sample	0.65	N	U	P
030104-28-02	GROSS ALPHA	-0.31	DPM/sample	0.9	N	U	P
030104-28-03	GROSS ALPHA	0.02	DPM/sample	0.77	N	U	P
030104-28-04	GROSS ALPHA	-0.06	DPM/sample	0.87	N	U	P
030104-28-04-LR	GROSS ALPHA	-0.09	DPM/sample	0.68	N	UNC	P
030104-28-05	GROSS ALPHA	0.18	DPM/sample	0.67	N	U	P
030104-28-06	GROSS ALPHA	0.45	DPM/sample	0.66	N	U	P
030104-28-07	GROSS ALPHA	0.08	DPM/sample	0.65	N	U	P
030104-28-08	GROSS ALPHA	-0.12	DPM/sample	0.77	N	U	P
030104-28-09	GROSS ALPHA	-0.05	DPM/sample	0.68	N	U	P
030104-28-10	GROSS ALPHA	0.22	DPM/sample	0.68	N	U	P
030104-28-11	GROSS ALPHA	0.19	DPM/sample	0.73	N	U	P
030104-28-12	GROSS ALPHA	-0.01	DPM/sample	0.68	N	U	P
030104-28-13	GROSS ALPHA	0.19	DPM/sample	0.71	N	U	P
030104-28-14	GROSS ALPHA	0.13	DPM/sample	0.7	N	U	P
030104-28-14-LR	GROSS ALPHA	0.21	DPM/sample	0.62	N	UNC	P
030104-28-15	GROSS ALPHA	0.14	DPM/sample	0.64	N	U	P
030104-28-16	GROSS ALPHA	0.3	DPM/sample	0.76	N	U	P
030104-28-17	GROSS ALPHA	-0.02	DPM/sample	0.66	N	U	P
030104-28-18	GROSS ALPHA	0.29	DPM/sample	0.74	N	U	P
030104-28-19	GROSS ALPHA	0.14	DPM/sample	0.62	N	U	P
030104-28-20	GROSS ALPHA	0.15	DPM/sample	0.79	N	U	P
030104-28-20FD	GROSS ALPHA	0.26	DPM/sample	0.67	N	U	P
030104-28-21	GROSS ALPHA	0.07	DPM/sample	0.68	N	U	P
030104-28-22	GROSS ALPHA	0.32	DPM/sample	0.71	N	U	P
030104-28-23	GROSS ALPHA	-0.02	DPM/sample	0.62	N	U	P
030104-28-24	GROSS ALPHA	0.21	DPM/sample	0.72	N	U	P
030104-28-25	GROSS ALPHA	0.1	DPM/sample	0.64	N	U	P
030104-28-26	GROSS ALPHA	0.14	DPM/sample	0.77	N	U	P
030104-28-26-LR	GROSS ALPHA	0.2	DPM/sample	0.68	N	UNC	P
030104-28-27	GROSS ALPHA	0.06	DPM/sample	0.66	N	U	P
030104-28-28	GROSS ALPHA	0.05	DPM/sample	0.74	N	U	P
030104-28-29	GROSS ALPHA	0.18	DPM/sample	0.62	N	U	P
030104-28-30	GROSS ALPHA	-0.22	DPM/sample	0.79	N	U	P
030104-28-31	GROSS ALPHA	0.13	DPM/sample	0.79	N	U	P
030104-28-32	GROSS ALPHA	-0.07	DPM/sample	0.7	N	U	P
030104-28-33	GROSS ALPHA	-0.17	DPM/sample	0.72	N	U	P
030104-28-34	GROSS ALPHA	0.06	DPM/sample	0.62	N	U	P
030104-28-35	GROSS ALPHA	-0.03	DPM/sample	0.72	N	U	P
030104-28-36	GROSS ALPHA	-0.13	DPM/sample	0.74	N	U	P
030104-28-36FD	GROSS ALPHA	0.22	DPM/sample	0.77	N	U	P
030104-28-36-LR	GROSS ALPHA	0.18	DPM/sample	0.64	N	UNC	P
030104-28-37	GROSS ALPHA	0.22	DPM/sample	0.77	N	U	P
030104-28-38	GROSS ALPHA	0.1	DPM/sample	0.66	N	U	P
030104-28-39	GROSS ALPHA	0.13	DPM/sample	0.74	N	U	P
030104-28-40	GROSS ALPHA	0.1	DPM/sample	0.62	N	U	P
030104-28-41	GROSS ALPHA	0.02	DPM/sample	0.75	N	U	P
030104-28-42	GROSS ALPHA	0.27	DPM/sample	0.72	N	U	P
030104-28-43	GROSS ALPHA	-0.06	DPM/sample	0.79	N	U	P
030104-28-44	GROSS ALPHA	-0.17	DPM/sample	0.79	N	U	P
030104-28-45	GROSS ALPHA	0.43	DPM/sample	0.62	N	U	P

030104-28-45FD	GROSS ALPHA	0.23	DPM/sample	0.71	N	U	P
030104-28-45-LR	GROSS ALPHA	0.11	DPM/sample	0.68	N	UNC	P
030104-28-46	GROSS ALPHA	0.53	DPM/sample	0.74	N	U	P
030104-28-FB	GROSS ALPHA	0.1	DPM/sample	0.64	N	U	P

Laboratory A1505/1507

Final Status Data Summary Ta . Beta and Alpha Scan Data
Survey Unit: Laboratory A1505/1507
Building 53, Denver Federal Center

Laboratory ID		Action Criteria	Individual Measurements									
Beta Scan												
A1505/1507	Bkg. Value	$MDCR_{Surveyor}$										
Floor Tile	401	802.0	409.0	383.0	388.0	294.0	315.0	333.0	292.0	313.0	No. of meas./locs	10
Wall Board	345	690.0	339.0	400.0							Maximum	409.0
											Mean	346.6
											Standard Deviation	44.60
											No. > $MDCR_{Surveyor}$	0
Alpha Scan												
A1505/1507		Bkg. Value										
Floor Tile		5.5	3.0	5.0	3.0	5.0	2.0	7.0	3.0	6.0	No. of meas./locs	10
Wall Board		5.5	6.0	5.0							Maximum	7.0
											Mean	4.5
											Standard Deviation	1.65
											No. > Scan MDC	0

Notes:
Bold values exceed respective criteria.
Kcpm - Thousand counts per minute.
Bkg. - Background.

470094

Final Status Data Summary Table: Direct Beta Measurements
Survey Unit: Laboratory A1505/1507
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements														
Systematic Direct Read Locations																	
A1505/1507																No. of meas./locs	39
Wall	1,000 dpm/100cm^2	1,000 dpm/100cm^2	239	-28	-47	151	152	77	-47	-117	-53	300	55	25		Maximum	632.0
Wall	1,000 dpm/100cm^2	1,000 dpm/100cm^2	632	-210	224	-364	-100	-173	-218	-291	-92	-672	-1984			Mean	57.8
Floor	1,000 dpm/100cm^2	1,000 dpm/100cm^2	-61	228	210	294	332	171	317	294	136	363	394			Standard Deviation	430.2
Floor	1,000 dpm/100cm^2	1,000 dpm/100cm^2	407	474	462	282	493									No. > Administrative Goal	0
																No. > Release Criteria	0
Bias Direct Read Locations																	
A1505/1507																No. of meas./locs	10
Wall	1,000 dpm/100cm^2	1,000 dpm/100cm^2	84	983	-1258											Maximum	983.0
Floor	1,000 dpm/100cm^2	1,000 dpm/100cm^2	626	93	950	-250	-185	-191	-391							Mean	46.1
																Standard Deviation	676.9
																No. > Administrative Goal	0
																No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*1st*	*2nd*	*RPD*
A1505/1507			
Location A-06	152	116	27
Location A-26	210	220	-5
Location BS-1505/1507-08	-1258	-1747	-33

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.

Final Status Data Summary Tab... Direct Alpha Measurements
Survey Unit: Laboratory A1507/1507
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements														
Systematic Direct Read Locations																	
A1505/1507																No. of meas./locs	39
Wall	30[a] dpm/100cm^2	100 dpm/100cm^2	3	-13	-37	-18	-22	-22	-18	23	18	0	-6	-17		Maximum	36.0
Wall	30[a] dpm/100cm^2	100 dpm/100cm^2	-20	-18	31	-7	-22	-20	-36	-37	-34	-34	-36			Mean	-6.4
Floor	30[a] dpm/100cm^2	100 dpm/100cm^2	-10	-9	0	-6	21	25	18	21	36	29	-19			Standard Deviation	20.8
Floor	30[a] dpm/100cm^2	100 dpm/100cm^2	-7	-16	1	4	4									No. > Administrative Goal	1
																No. > Release Criteria	0
Bias Direct Read Locations																	
A1505/1507																No. of meas./locs	10
Wall	30[a] dpm/100cm^2	100 dpm/100cm^2	-23	-33	-12											Maximum	5.0
Floor	30[a] dpm/100cm^2	100 dpm/100cm^2	5	-16	-12	5	-16	-22	-3							Mean	-12.7
																Standard Deviation	12.2
																No. > Administrative Goal	0
																No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*1st*	*2nd*	*RPD*
A1505/1507			
Location A-06	-22	-21	5
Location A-26	0	-9	-200
Location BS-1505/1507-08	-12	-11	9

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.
[a] - Approximate sensitivity of field instrument

Final Status Data Summary Table: Beta Wipe Sample Results
Survey Unit: Laboratory A1505/1507
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements		
Systematic Direct Read Locations					
A1505/1507				No. of meas./locs	39
Wall	200 dpm/100cm^2	200 dpm/100cm^2	All sample results were reported as non-detected at < 1.9 dpm/100cm^2	Maximum	na
Wall	200 dpm/100cm^2	200 dpm/100cm^2		Mean	na
Floor	200 dpm/100cm^2	200 dpm/100cm^2		Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0
Bias Direct Read Locations					
A1505/1507				No. of meas./locs	10
Wall	200 dpm/100cm^2	200 dpm/100cm^2	All sample results were reported as non-detected at < 1.9 dpm/100cm^2	Maximum	na
Floor	200 dpm/100cm^2	200 dpm/100cm^2		Mean	na
				Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*Regular*	*Field Duplicate*	*Field Splits*	*RPD*
A1505/1507				
Location A-20	nd	nd	nd	nc
Location A-35	nd	nd	nd	nc
Location BS-1507-06	nd	nd	nd	nc

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.
nd - non-detected
nc - not calculated

Final Status Data Summary Table. Alpha Wipe Sample Results
Survey Unit: Laboratory A1505/1507
Building 53, Denver Federal Center

Laboratory ID	Administrative Goal	Release Criteria	Individual Measurements		
Systematic Direct Read Locations					
A1505/1507				No. of meas./locs	39
Wall	1.1 dpm/100cm^2	20 dpm/100cm^2	There was one floor sample location with a result of 0.61 dpm/100cm^2,	Maximum	0.6
Wall	1.1 dpm/100cm^2	20 dpm/100cm^2	just over it's respective MDC of 0.60 dpm/100cm2	Mean	na
Floor	1.1 dpm/100cm^2	20 dpm/100cm^2	All other sample results were reported as non-detected at < 0.90 dpm/100cm^2	Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0
Bias Direct Read Locations					
A1505/1507				No. of meas./locs	10
Wall	1.1 dpm/100cm^2	20 dpm/100cm^2	All sample results were reported as non-detected at < 0.90 dpm/100cm^2	Maximum	na
Floor	1.1 dpm/100cm^2	20 dpm/100cm^2		Mean	na
				Standard Deviation	na
				No. > Administrative Goal	0
				No. > Release Criteria	0

Quality Control; Field Duplicate Performance (Criteria <20%)	*Regular*	*Field Duplicate*	*Field Splits*	*RPD*
A1505/1507				
Location A-20	nd	nd	nd	nc
Location A-35	nd	nd	nd	nc
Location BS-1507-06	nd	nd	nd	nc

Notes:
Bold values exceed respective criteria.
cm^2 - Square centimeters.
DCGL - Derived concentration value representing the upper limit criteria.
RPD - Relative percent difference.
dpm - Disintegrations per minute.
ALARA - As low as reasonably achievable.
nd - non-detected
nc - not calculated

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT	PROJECT NUMBER: 101115	DATE: 030204	TIME START: 1300 / TIME COMPLETE: 1615 / PAGE 1 OF 10
LOCATION: EPA NEIC Rm A 1507	SURVEYOR(S): Trent / Stephens		
Denver Federal Center, CO	SURVEY NUMBER: 030204-30		
Denver, CO	MAP ID:		

ACCEPTABLE SURFACE CONTAMINATION LEVELS
Loose 20 dpm/100cm² Alpha 200 dpm/100cm² Beta-Gamma
Total 100 dpm/100cm² Alpha 1,000 dpm/100cm² Beta-Gamma

ACCEPTABLE SCAN LIMITS
$MDCR_{surveyor}$ Beta
$MDCR_{surveyor}$ Alpha

Source Check Data	Contamination Surveys				Radiation Surveys
	α (TOTAL)	α (TOTAL)	β-γ (TOTAL)	β-γ (TOTAL)	Beta-Gamma
Instrument	184904 / 185768	185774	184904 / 185768	185774	NA
Source Type and I.D.	Th-230, 1170/89	Th-230, 1170/89	Cs-137, 92CS5000	Cs-137, 92CS5000	
Source Strength in dpm	13800	13800	769565	769565	Ok
Efficiency	0.13 / 0.15	0.15	0.16 / 0.17	0.18	
MDC in dpm/100 cm²	See attached instrument sheets for material specific backgrounds and MDC's.				Sat. ☐ Unsat. ☐
Background in cpm					mrem/hr or µrem/hr

REASON FOR SURVEY
☒ PROCEDURE NO. FINAL STATUS SURVEY PLAN
☐ SPECIAL SCANS
☐ ROUTINE

Contamination ☒ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐
Radiation ☐ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐

COMMENTS:

SADS – See Attached Data Sheet

Contamination Survey INSTRUMENT / SERIAL #		
	ALPHA (TOTAL) 2360 / 185774	BETA-GAMMA (TOTAL) 2360 / 185774
	ALPHA (TOTAL) 2360 / 185768	BETA-GAMMA (TOTAL) 2360 / 185768
	ALPHA (TOTAL) N/A	BETA-GAMMA (TOTAL) N/A

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☒	Item or Location
1					FT	M-2
2					FT	K4
3					FT	J-3
4					WB	A-9
5					WB	B-21
6					FT	D5
7					FT	T-7
8					FT	J-6
9					FT	M-6
10					FT	L-5
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

N/A

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RCS REVIEW [signature] DATE 3-5-04

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1507	PAGE 2 OF 10
COMMENTS:	SURVEYOR(S): Trent Stephens	SURVEY NUMBER: 030204-30	DATE: 03-02-04
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW:	DATE: 3.5.04		

Grid Intersection ___,___

Backgrd Ck (cpm)

6 / 355 0730

5 / 347 1500

2360 185774

Grid Intersection ___,___

Backgrd Ck (cpm)

7 / 278 0730

4 / 301 1500

2360 185768

Contamination / R[illegible]tion Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION: RM 1507 / Laboratory-Room		PAGE 3 OF 10
COMMENTS:	SURVEYOR(S): Trent / Stephens	SURVEY NUMBER: 030204-30	DATE: 030204
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW: [signature]	DATE: 3-5-04		

Grid Intersection M, 2

3 cpm

409 cpm

Grid Intersection K, 4

5 cpm

383 cpm

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1507	PAGE 4 OF 10
COMMENTS:	SURVEYOR(S): Trent Stephens	SURVEY NUMBER: 030204-30	DATE: 030204
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW:	DATE: 3.5.04		

Grid Intersection J 3

3cpm

388cpm

Grid Intersection A 9

5cpm

339cpm

Contamination / R[illegible]ation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1507	PAGE 5 OF 10
COMMENTS:	SURVEYOR(S): T Rent / Stephens	SURVEY NUMBER: 030204-30	DATE: 030204
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW:	DATE: 3-5-04		

Grid Intersection B .21

2 cpm

400 cpm

Grid Intersection D .5

7 cpm

294 cpm

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1507	PAGE 6 OF 10
COMMENTS:	SURVEYOR(S): Trent / Stephens	SURVEY NUMBER: 030204-30	DATE: 030204
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW: [signature]	DATE: 3-5-04		

Grid Intersection I, 7

3cpm

315 cpm

Grid Intersection J, 6

6cpm

333 cpm

Contamination / R tion Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room A 1507	PAGE 7 OF 10
COMMENTS:	SURVEYOR(S): Trent Stephens	SURVEY NUMBER: 030204-30	DATE: 030204
	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.		
RCS REVIEW:	DATE: 3-5-04		

Grid Intersection M, 6

6 cpm

292 cpm

Grid Intersection L, 5

5 cpm

313 cpm

MDCRsurveyor Scanning Levels for Specific Materials

23-60	185774	/	Instr. Eff.	0.18 / Setup MDC	1711

Wall Board	**(WB)**	BKGD CPM	271.18	MDCR surveyor	396	gross cpm
Floor Tile	**(FT)**	BKGD CPM	347.86	MDCR surveyor	489	gross cpm
Wood	**(wo)**	BKGD CPM	250.42	MDCR surveyor	370	gross cpm
Concrete Floor	**(CF)**	BKGD CPM	498.62	MDCR surveyor	667	gross cpm
Metal	**(ME)**	BKGD CPM	325.46	MDCR surveyor	462	gross cpm
Concrete Block	**(CB)**	BKGD CPM	530.62	MDCR surveyor	705	gross cpm
Glass	**(GL)**	BKGD CPM	370.34	MDCR surveyor	516	gross cpm
Countertop	**(CT)**	BKGD CPM	286.78	MDCR surveyor	415	gross cpm

Pg 8 of 10
030004ED
3-5-04

MDCRsurveyor Scanning Levels for Specific Materials

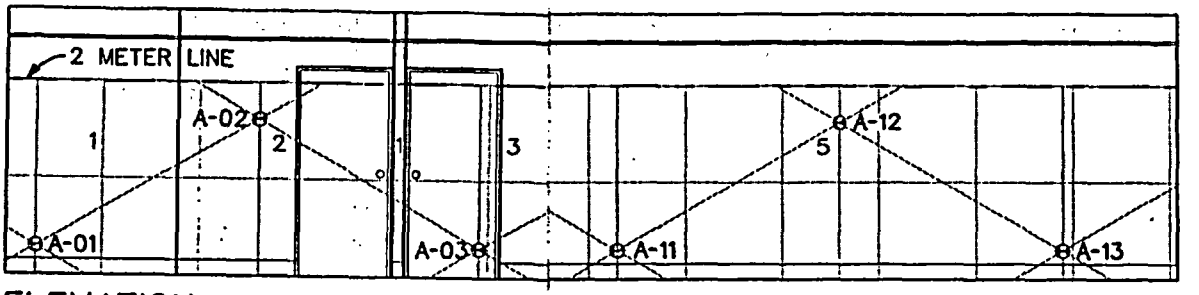
23-60 185768 / Instr. Eff. 0.17 / Setup MDC 1641

Wall Board	**(WB)**					
		BKGD CPM	230.00	MDCR surveyor	345	gross cpm
Floor tile	**(FT)**					
		BKGD CPM	275.22	MDCR surveyor	401	gross cpm
Wood	**(wo)**					
		BKGD CPM	210.12	MDCR surveyor	320	gross cpm
Concrete Floor	**(CF)**					
		BKGD CPM	357.50	MDCR surveyor	500	gross cpm
Metal	**(ME)**					
		BKGD CPM	256.10	MDCR surveyor	377	gross cpm
Concret Block	**(CB)**					
		BKGD CPM	446.00	MDCR surveyor	606	gross cpm
Glass	**(GL)**					
		BKGD CPM	304.00	MDCR surveyor	436	gross cpm
Countertop	**(CT)**					
		BKGD CPM	232.08	MDCR surveyor	347	gross cpm

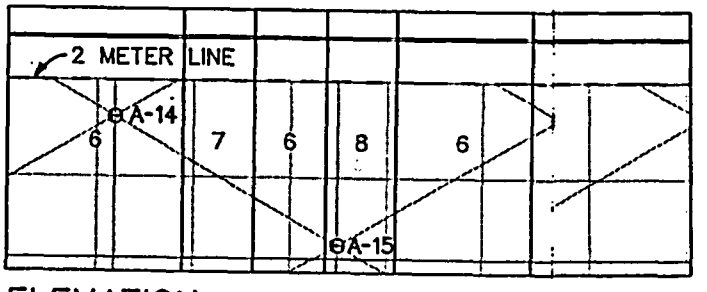
3-5-09

030204-30

3 of 10



ELEVATION
SCALE: 1" = 2.0 m



ELEVATION (CONT)
SCALE: 1" = 2.0 m

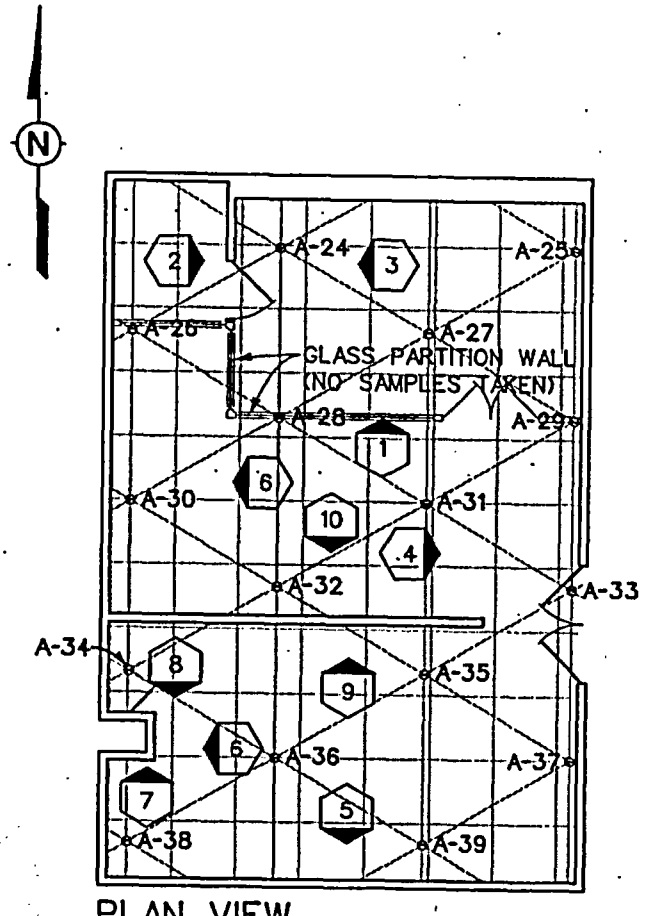
NOTES

1. WALL SURFACE AREA: 106.0992 SQ. M.

   FLOOR SURFACE AREA: 76.8926 SQ. M.

   TOTAL SURFACE AREA: 182.9918 SQ. M.

2. THE LENGTH OF EACH LEG OF THE TRIANGULAR SAMPLING GRID IS 2.654 METERS



PLAN VIEW
SCALE: 1" = 3.0 m

FIGURE 3-7
TRIANGULAR SAMPLING GRID FOR LABORATORY A1505/1507

EPA NEIC
DENVER FEDERAL CENTER
LAKEWOOD, COLORADO

Shaw Shaw Environmental, Inc.

STARTING DATE: 25NOV03 | INITIATOR: R.COLLINS | TECH. REVIEW: R.COLLINS | DWG. NO.: 101115_neic_0005.dgn
DRAWN BY: C.E.TUMLIN | CADD REVIEW: C.BENTLEY | PROJ. MGR.: R.L.ROGERS | PROJ. NO.: 101115

r2d2-b&w-tabloid.plt
standard.tbl
3/2/2004
3:43:01 PM

1:999.9960 mmm / IN.
ctumlin
C:\cadd\Design\101115_neic_0005.dgn

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT	PROJECT NUMBER: 101115
LOCATION: EPA NEIC	SURVEYOR(S): J. STEPHENS / T. TRENT
Denver Federal Center, CO	SURVEY NUMBER: 030204-31
Denver, CO	MAP ID: LAB A1505/1507

ACCEPTABLE SURFACE CONTAMINATION LEVELS
Loose 20 dpm/100cm² Alpha 200 dpm/100cm² Beta-Gamma
Total 100 dpm/100cm² Alpha 1,000 dpm/100cm² Beta-Gamma

ACCEPTABLE SCAN LIMITS
$MDCR_{surveyor}$ Beta
$MDCR_{surveyor}$ Alpha

Source Check Data	Contamination Surveys				Radiation Surveys
	α (TOTAL)	α (TOTAL)	β-γ (TOTAL)	β-γ (TOTAL)	Beta-Gamma
Instrument	184904 / 185768	185774	184904 / 185768	185774	NA
Source Type and I.D.	Th-230, 1170/89	Th-230, 1170/89	Cs-137, 92C85000	Cs-137, 92C85000	
Source Strength in dpm	13800	13800	769565	769565	Cs
Efficiency	0.13 / 0.15	0.15	0.16 / 0.17	0.18	
MDC in dpm/100 cm²	See attached instrument sheets for material specific backgrounds and MDC's.				Set. ☐ Unset. ☐
Background in cpm					mrem/hr or μrem/hr

REASON FOR SURVEY
☑ PROCEDURE NO. FINAL STATUS SURVEY PLAN - Direct Readings
☐ SPECIAL
☐ ROUTINE

Contamination ☑ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐
Radiation ☐ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐

COMMENTS: Item 1-18 - 2360 185774 19-39 2360 - 185768
40 - 2360 185774 41-46 2360 185768
47-52 2360 185774

SADS – See Attached Data Sheet

Contamination Survey INSTRUMENT / SERIAL #		
	ALPHA (TOTAL) 2360 , 185774	BETA-GAMMA (TOTAL) 2360 , 185774
	ALPHA (TOTAL) 2360 , 185768	BETA-GAMMA (TOTAL) 2360 , 185768
	ALPHA (TOTAL) ,	BETA-GAMMA (TOTAL) ,

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DATE: 03·02·04 TIME START: 0730 TIME COMPLETE: 1400 PAGE 1 OF 10

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☑	Item or Location
1	NA	3	NA	239	WBD	A - 01
2		-13		-28	WBD	A - 02
3		-37		-672	GL	A - 03
4		-18		-47	WBD	A - 04
5		-22		151		A - 05
6		-22		152		A - 06
7		-18		77		A - 07
8		23		-47		A - 08
9		18		-117		A - 09
10		0		-53		A - 10
11		-6		300		A - 11
12		-17		55		A - 12
13		-20		25		A - 13
14		-18		632	WBD	A - 14
15		31		-1984	CB	A - 15
16		-7		-210	WBD	A - 16
17		-22		224		A - 17
18		-20		-364		A - 18
19		-36		-100		A - 19
20		-37		-173		A - 20
21		-34		-218		A - 21
22		-34		-291		A - 22
23		-36		-92	WBD	A - 23
24		-10		-61	FT	A - 24
25		-9		228	FT	A - 25

RCS REVIEW [signature] DATE 3·16·04

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT (CONTINUATION SHEET)

PROJECT NUMBER: 101115 | DATE: 03 · 02 · 04 | PAGE 2 OF 10

LOCATION: EPA NEIC
Denver Federal Center, Building 53
Denver, CO

SURVEYOR(S): J. STEPHENS / T. TRENT
SURVEY NUMBER: D30204 - 31
MAP ID: LAB A1505/1507

COMMENTS:

RCS REVIEW [signature] DATE 3·16·04

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☑	Item or Location
26	NA	0	NA	210	FT	A - 26
27		-6		294		A - 27
28		21		332		A - 28
29		25		171		A - 29
30		18		317		A - 30
31		21		294		A - 31
32		36		136		A - 32
33		29		363		A - 33
34		-19		394		A - 34
35		-7		407		A - 35
36		-16		474		A - 36
37		1		462		A - 37
38		4		282		A - 38
39		4		493	FT	A - 39
40		-21		116	WBD	Replicate A-06
41		-9		220	FT	Replicate A - 26
42		5		626	3/16/04 ~~CB~~ FT	BS - 1507 - 01
43		-16		93	FT	BS - 1507 - 02
44		-23		84	WBD	BS - 1507 - 03
45		-33		983	WBD	BS - 1507 - 04
46		-12		950	FT	BS - 1507 - 05
47		5		-250	FT	BS - 1507 - 06
48		-16		-185	FT	BS - 1507 - 07
49		-12	-1258	~~-1289~~ 3/16/04	CB	BS - 1507 - 08
50		-22		-191	FT	BS - 1507 - 09

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☑	Item or Location
51	NA	-3	NA	-391	FT	BS-1507-10
52		-11		-1747	CB	Replicate BS1507-08
53						
54						
55						
56						
57						
58						
59						
60						
61						
62			N/A			
63						
64						
65						
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75						

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Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room LAB A1505/1507	PAGE 3 OF 10
COMMENTS:	SURVEYOR(S): J. STEPHENS / T. TRENT	SURVEY NUMBER: 030204-31	DATE: 03-02-04
RCS REVIEW: [signature]	DATE: 3.16.04	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.	

Background Checks (cpm)

2360 185774

alpha	beta	Time	
6	355	0730	03-02-04
5	347	1500	
5	336		03-03-04
6	401		

Background Checks (cpm)

2360 185768

alpha	beta	Time	
7	278	0730	03-02-04
4	301	1500	
3	289		03-03-04
2	301		

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION:	/ Laboratory-Room LAB A1505/1507	PAGE 4 OF 10
COMMENTS:	SURVEYOR(S): J. STEPHENS / T. TRENT	SURVEY NUMBER: 030204 - 31	DATE: 03-02-04
RCS REVIEW: [signature]	DATE: 3.16.04	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.	

Replicate Count A-06

Gross Total Counts

ORIGINAL

15 / 4859

Replicate

16 / 4797

Replicate Count A-26

Gross Total Counts

ORIGINAL

33/4466

Replicate

27/4481

Contamination / Radiation Survey Report

PROJECT NUMBER: 101115	ACTIVITY / LOCATION: / Laboratory-Room LAB		PAGE 5 OF 10
COMMENTS:	SURVEYOR(S): J. STEPHENS / T. TRENT	SURVEY NUMBER: 030204 - 31	DATE: 03-02-04
RCS REVIEW: [signature]	DATE: 3.16.04	NOTE: THE KNOWING AND WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.	

Replicate Count BS-1507-08

Gross Total Counts

ORIGINAL

17 / 5820

Replicate

18 / 4987

Pg 6 of 10
030204-31

Material Specific Background and MDC Sheet for Beta Measurements

3.16.04

Instrument/SN: Ludlum 2360 / 185768 Background Count Time 5.00 minutes

Probe/SN: Ludlum 43-68 / RN012714 Total Instrument Effciency 0.0850 dpm/cpm

Wall Board	**(WB)**	230.00	cpm	**MDC**	242	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**(FT)**	275.22	cpm	**MDC**	265	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**(WO)**	210.12	cpm	**MDC**	232	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**(CF)**	357.50	cpm	**MDC**	302	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**(ME)**	256.10	cpm	**MDC**	256	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**(CB)**	446.00	cpm	**MDC**	337	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**(GL)**	304.00	cpm	**MDC**	278	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**(CT)**	232.08	cpm	**MDC**	244	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	385.38	cpm	**MDC**	313	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	285.78	cpm	**MDC**	270	dpm/100cm2	**Sample Count Time**	15.00	min

Material Specific Backgrou... and MDC Sheet for Alpha Measurements

Instrument/SN: Ludlum 2360 / 185768

Background count time 5 minutes

Probe/SN: Ludlum 43-68 / RN012714

Total Instrument Effciency 0.0375 dpm/cpm

Wall Board	**WB**	1.82	cpm	**MDC**	53	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**FT**	2.22	cpm	**MDC**	58	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**WO**	3.10	cpm	**MDC**	68	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**CF**	5.52	cpm	**MDC**	89	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**ME**	1.84	cpm	**MDC**	53	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**CB**	2.50	cpm	**MDC**	61	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**GL**	4.38	cpm	**MDC**	79	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**CT**	1.68	cpm	**MDC**	51	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	16.10	cpm	**MDC**	149	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	3.42	cpm	**MDC**	71	dpm/100cm2	**Sample Count Time**	15	min

3-16-04

030204-31

3-16-04

Material Specific Background and MDC Sheet for Alpha Measurements

Instrument/SN: Ludlum 2360 / 185774

Background count time 5 minutes

Probe/SN: Ludlum 43-68 / RN012713

Total Instrument Effciency 0.0375 dpm/cpm

Wall Board	**WB**	2.30	cpm	**MDC**	59	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**FT**	1.96	cpm	**MDC**	55	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**WO**	2.24	cpm	**MDC**	58	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**CF**	3.54	cpm	**MDC**	72	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**ME**	1.10	cpm	**MDC**	42	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**CB**	1.72	cpm	**MDC**	51	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**GL**	3.74	cpm	**MDC**	74	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**CT**	2.30	cpm	**MDC**	59	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	5.04	cpm	**MDC**	85	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	2.06	cpm	**MDC**	56	dpm/100cm2	**Sample Count Time**	15	min

030204-31

3-16-04

Material Specific Background and MDC Sheet for Beta Measurements

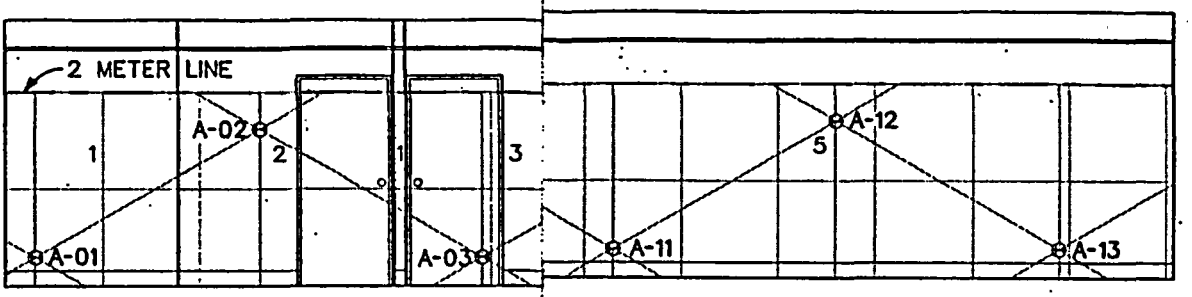
Instrument/SN: Ludlum 2360 / 185774

Probe/SN: Ludlum 43-68 / RN012713

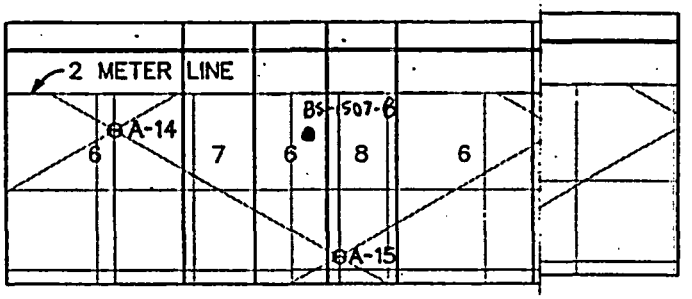
Background Count Time 5.00 minutes

Total Instrument Effciency 0.0900 dpm/cpm

Wall Board	**(WB)**	271.18	cpm	**MDC**	248	dpm/100cm2	**Sample Count Time**	15.00	min
Floor Tile	**(FT)**	347.86	cpm	**MDC**	281	dpm/100cm2	**Sample Count Time**	15.00	min
Wood	**(WO)**	250.42	cpm	**MDC**	239	dpm/100cm2	**Sample Count Time**	15.00	min
Cement Floor	**(CF)**	498.62	cpm	**MDC**	336	dpm/100cm2	**Sample Count Time**	15.00	min
Metal	**(ME)**	325.46	cpm	**MDC**	272	dpm/100cm2	**Sample Count Time**	15.00	min
Concrete Block	**(CB)**	530.62	cpm	**MDC**	347	dpm/100cm2	**Sample Count Time**	15.00	min
Glass	**(GL)**	370.34	cpm	**MDC**	290	dpm/100cm2	**Sample Count Time**	15.00	min
Counter Top	**(CT)**	286.78	cpm	**MDC**	255	dpm/100cm2	**Sample Count Time**	15.00	min
Black&White Floor Tile	**(BWFT)**	393.98	cpm	**MDC**	299	dpm/100cm2	**Sample Count Time**	15.00	min
Wall Board Downstairs	**(WBD)**	306.64	cpm	**MDC**	264	dpm/100cm2	**Sample Count Time**	15.00	min



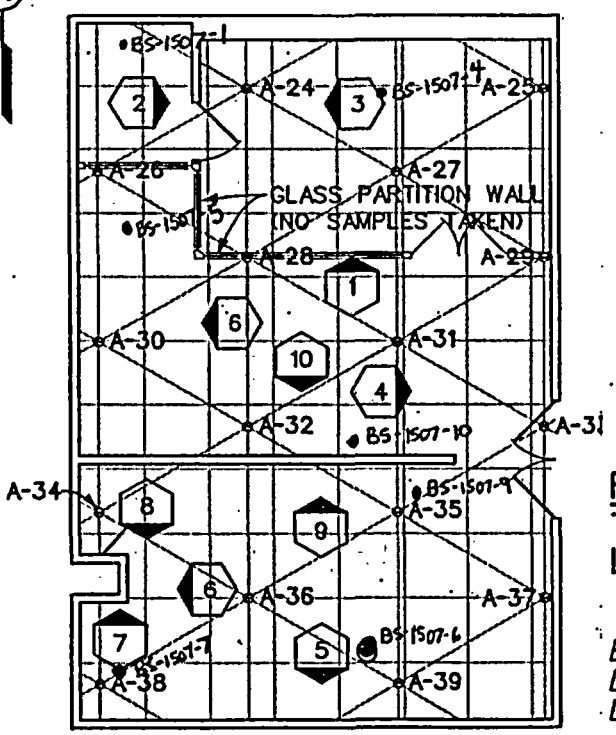
ELEVATION
SCALE: 1" = 2.0 m



ELEVATION (CONT)
SCALE: 1" = 2.0 m

NOTES

1. WALL SURFACE AREA: 106.0992 SQ. M.
   FLOOR SURFACE AREA: 76.8926 SQ. M.
   TOTAL SURFACE AREA: 182.9918 SQ. M.
2. THE LENGTH OF EACH LEG OF THE TRIANGULAR SAMPLING GRID IS 2.654 METERS



PLAN VIEW
SCALE: 1" = 3.0 m

FIGURE 3-7
TRIANGULAR SAMPLING GRID FOR LABORATORY A1505/1507

EPA NEIC
DENVER FEDERAL CENTER
LAKEWOOD, COLORADO

Shaw Environmental, Inc.

STARTING DATE: 25NOV03 | INITIATOR: R.COLLINS | TECH. REVIEW: R.COLLINS | DWG. NO.: 101115_neic_0005.dgn
DRAWN BY: C.E.TUMLIN | CADD REVIEW: C.BENTLEY | PROJ. MGR.: R.L.ROGERS | PROJ. NO.: 101115

r2d2-b&w-tabloid.plt standard.tbl 3/2/2004 3:43:01 PM

1:999.9960 m:mm / IN. ctumlin C:\cadd\Design\101115_neic_0005.dgn

Cfullen 3-16-04 030204-31

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT	PROJECT NUMBER: 101115
LOCATION: EPA NEIC Rm A 1507	SURVEYOR(S): Stephens / Trent
Denver Federal Center, CO	SURVEY NUMBER: 030204-32
Denver, CO	MAP ID: LAB A1505/1507

DATE: 03/03/04 | TIME START: 1400 | TIME COMPLETE: 1630 | PAGE 1 OF 3

ACCEPTABLE SURFACE CONTAMINATION LEVELS
Loose 20 dpm/100cm² Alpha 200 dpm/100cm² Beta-Gamma
Total 100 dpm/100cm² Alpha 1,000 dpm/100cm² Beta-Gamma

ACCEPTABLE SCAN LIMITS

Source Check Data	Contamination Surveys				Radiation Surveys
	α (LOOSE)	α (TOTAL)	β-γ (LOOSE)	β-γ (TOTAL)	Beta-Gamma
Instrument	*NOTE	NA	*NOTE	NA	NA
Source Type and I.D.					
Source Strength in dpm					µCi
Efficiency					
MDC in dpm/100 cm²					Sat. ☐ Unsat. ☐
Background in cpm					mrem/hr or µrem/hr

REASON FOR SURVEY
☑ PROCEDURE NO. FINAL STATUS SURVEY PLAN
☐ SPECIAL Smears
☐ ROUTINE

Contamination ☑ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐
Radiation ☐ By Shift ☐ Daily ☐ Weekly ☐ Monthly ☐

COMMENTS: NOTE: SEE DATA PACKGE FROM PARAGON ANALYTICS, INC. FOR REMOVABLE ACTIVITY RESULTS AND INSTRUMENT INFORMATION.

Contamination Survey INSTRUMENT / SERIAL #		
	ALPHA (LOOSE) PERFORMED BY PARAGON ANALYTICS, INC.	BETA-GAMMA (LOOSE) PERFORMED BY PARAGON ANALYTICS, INC.
	ALPHA (TOTAL) N/A	BETA-GAMMA (TOTAL) N/A
Radiation Survey INSTRUMENT / SERIAL #	BETA-GAMMA Meter N/A	BETA-GAMMA Probe N/A

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
1	*NOTE	NA	*NOTE	NA	NA	A-01
2						A-02
3						A-03
4						A-04
5						A-05
6						A-06
7						A-07
8						A-08
9						A-09
10						A-10
11						A-11
12						A-12
13						A-13
14						A-14
15						A-15
16						A-16
17						A-17
18						A-18
19						A-19
20						A-20
21						A-21
22						A-22
23						A-23
24						A-24
25						A-25

THE KNOWING & WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.

RCS REVIEW [signature] DATE 3-5-04

Contamination / Radiation Survey Report

CONTAMINATION / RADIATION SURVEY REPORT (CONTINUATION SHEET)

PROJECT NUMBER: 101115 | DATE: 030204 | PAGE 2 OF 3

LOCATION: EPA NEIC
Denver Federal Center, Building 53
Denver, CO

SURVEYOR(S): TRent / Stephens
SURVEY NUMBER: 030204-32
MAP ID:

COMMENTS:

RCS REVIEW [signature] DATE 3-5-04

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
26						A 26
27						27
28						28
29						29
30						30
31						31
32						32
33						33
34						34
35						35
36		N		A		36
37						37
38						38
39						A 39
40						FD A20
41						FD A35
42						BS 1507 01
43						02
44						03
45						04
46						05
47						06
48						07
49						08
50						09

Item #	Alpha Loose dpm/100cm²	Alpha Total dpm/100cm²	Beta-Gamma Loose dpm/100cm²	Beta-Gamma Total dpm/100cm²	Alpha cpm ☐ Beta cpm ☐ Material ☐	Item or Location
51						BS 1507 10
52						FD BS 06
53						
54						
55						
56						
57						
58						N
59			N			A
60				A		
61						
62						
63						
64						
65						
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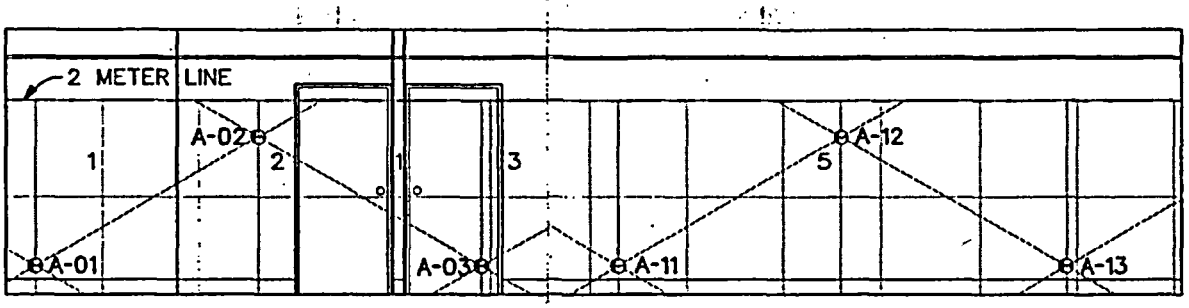
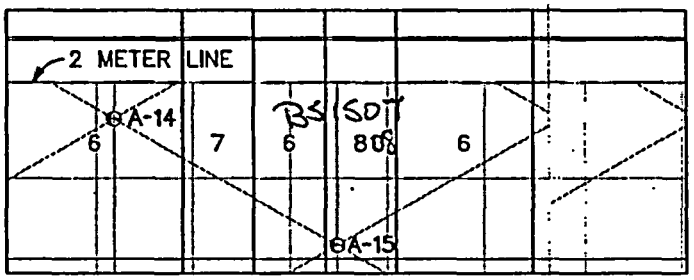
73						
74						
75						

THE KNOWING & WILLFUL RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES.



ELEVATION
SCALE: 1" = 2.0 m



ELEVATION (CONT)
SCALE: 1" = 2.0 m

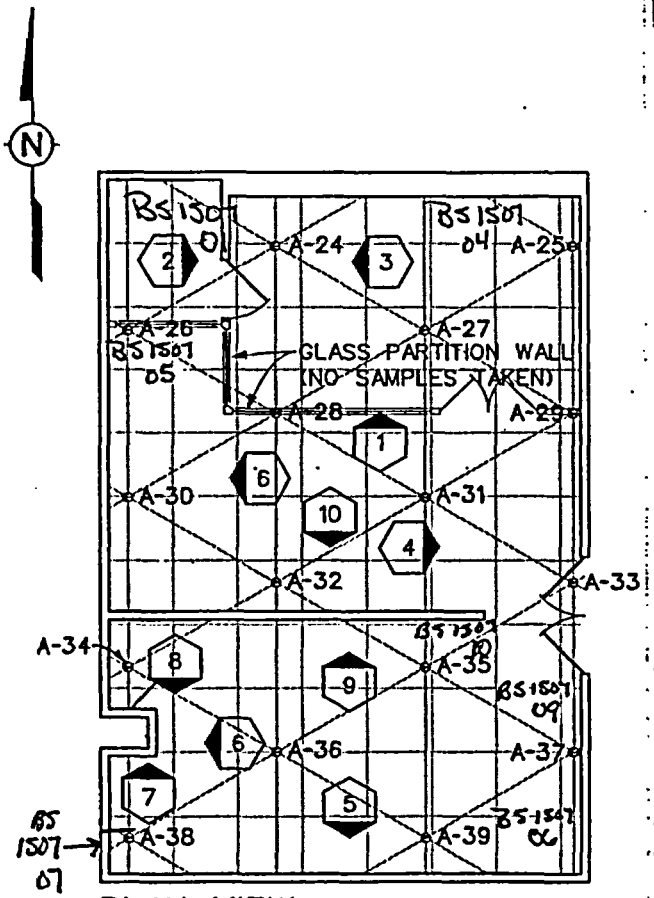
NOTES

1. WALL SURFACE AREA: 106.0992 SQ. M.

   FLOOR SURFACE AREA: 76.8926 SQ. M.

   TOTAL SURFACE AREA: 182.9918 SQ. M.

2. THE LENGTH OF EACH LEG OF THE TRIANGULAR SAMPLING GRID IS 2.654 METERS



PLAN VIEW
SCALE: 1" = 3.0 m

FIGURE 3-7
TRIANGULAR SAMPLING GRID FOR LABORATORY A1505/1507

EPA NEIC
DENVER FEDERAL CENTER
LAKEWOOD, COLORADO

Shaw Environmental, Inc.

STARTING DATE: 25NOV03 | INITIATOR: R.COLLINS | TECH. REVIEW: R.COLLINS | DWG. NO.: | PROJ. NO.: 101115
DRAWN BY: C.E.TUMLIN | CADD REVIEW: C.BENTLEY | PROJ. MGR.: R.L.ROGERS
neic_0005.dgn
r2d2-b&w-tabloid.plt standard.tbl 3/2/2004 3:43:01 PM
1:999.9960 in / IN. ctumlin C:\cadd\Design\101115_neic_0005.dgn

PARAGON ANALYTICS
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

March 26, 2004

Mr. Eddie Weaver
Shaw E & I
312 Directors Drive
Knoxville, TN 37923

Re: Paragon Workorder: 04-03-061
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Dear Mr. Weaver:

Fifty-three wipe samples were received from Shaw E & I on March 8, 2004. The samples were scheduled for Gross Alpha/Beta (pages 1-238) analysis. The results for this analysis are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics. Should you have any questions, please call.

Sincerely,

Debbie Fazio

Paragon Analytics
Debbie Fazio
Project Manager

MAR 30 2004

DJF/ja
Enclosure: Report

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0403061
Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
030204-31-01	0403061-1		WIPE	04-Mar-04	14:30
030204-31-02	0403061-2		WIPE	04-Mar-04	14:30
030204-31-03	0403061-3		WIPE	04-Mar-04	14:30
030204-31-04	0403061-4		WIPE	04-Mar-04	14:30
030204-31-05	0403061-5		WIPE	04-Mar-04	14:30
030204-31-06	0403061-6		WIPE	04-Mar-04	14:30
030204-31-07	0403061-7		WIPE	04-Mar-04	14:30
030204-31-08	0403061-8		WIPE	04-Mar-04	14:30
030204-31-09	0403061-9		WIPE	04-Mar-04	14:30
030204-31-10	0403061-10		WIPE	04-Mar-04	14:30
030204-31-11	0403061-11		WIPE	04-Mar-04	14:30
030204-31-12	0403061-12		WIPE	04-Mar-04	14:30
030204-31-13	0403061-13		WIPE	04-Mar-04	14:30
030204-31-14	0403061-14		WIPE	04-Mar-04	14:30
030204-31-15	0403061-15		WIPE	04-Mar-04	14:30
030204-31-16	0403061-16		WIPE	04-Mar-04	14:30
030204-31-17	0403061-17		WIPE	04-Mar-04	14:30
030204-31-18	0403061-18		WIPE	04-Mar-04	14:30
030204-31-19	0403061-19		WIPE	04-Mar-04	14:30
030204-31-20	0403061-20		WIPE	04-Mar-04	14:30
030204-31-21	0403061-21		WIPE	04-Mar-04	14:30
030204-31-22	0403061-22		WIPE	04-Mar-04	14:30
030204-31-23	0403061-23		WIPE	04-Mar-04	14:30
030204-31-24	0403061-24		WIPE	04-Mar-04	14:30
030204-31-25	0403061-25		WIPE	04-Mar-04	14:30
030204-31-26	0403061-26		WIPE	04-Mar-04	14:30
030204-31-27	0403061-27		WIPE	04-Mar-04	14:30
030204-31-28	0403061-28		WIPE	04-Mar-04	14:30
030204-31-29	0403061-29		WIPE	04-Mar-04	14:30
030204-31-30	0403061-30		WIPE	04-Mar-04	14:30
030204-31-31	0403061-31		WIPE	04-Mar-04	14:32
030204-31-32	0403061-32		WIPE	04-Mar-04	14:32

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0403061
Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
030204-31-33	0403061-33		WIPE	04-Mar-04	14:32
030204-31-34	0403061-34		WIPE	04-Mar-04	14:32
030204-31-35	0403061-35		WIPE	04-Mar-04	14:32
030204-31-36	0403061-36		WIPE	04-Mar-04	14:32
030204-31-37	0403061-37		WIPE	04-Mar-04	14:32
030204-31-38	0403061-38		WIPE	04-Mar-04	14:32
030204-31-39	0403061-39		WIPE	04-Mar-04	14:32
030204-31-40	0403061-40		WIPE	04-Mar-04	14:32
030204-31-41	0403061-41		WIPE	04-Mar-04	14:32
030204-31-42	0403061-42		WIPE	04-Mar-04	14:32
030204-31-43	0403061-43		WIPE	04-Mar-04	14:32
030204-31-44	0403061-44		WIPE	04-Mar-04	14:32
030204-31-45	0403061-45		WIPE	04-Mar-04	14:32
030204-31-46	0403061-46		WIPE	04-Mar-04	14:32
030204-31-47	0403061-47		WIPE	04-Mar-04	14:32
030204-31-48	0403061-48		WIPE	04-Mar-04	14:32
030204-31-49	0403061-49		WIPE	04-Mar-04	14:32
030204-31-20FD	0403061-50		WIPE	04-Mar-04	14:32
030204-31-35FD	0403061-51		WIPE	04-Mar-04	14:32
030204-31-45FD	0403061-52		WIPE	04-Mar-04	14:32
030204-31-FB	0403061-53		WIPE	04-Mar-04	14:32

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

0403061
Reference Document No: A1507-030204-31
PAGE 1 of 3
Bill to:

Project No.	101115	Sample Shipment Date	3-8-04		
Project name	EPA NEIC EDDP	Lab Destination	Paragon Analytics, Inc.		
Sample Coordinator	James Nelson / 303-233-1279	Lab Contact	Debbie Fazio		
Project Manager	Randy Rodgers / 865-694-7457	Project Contact/phone	Ben Dettorre / 865-670-2669	Report to:	Ben Dettore
Sample Team Members	T. TRENT	Carrier Waybill No.			312 Directors Drive
	J. STEPHENS				Knoxville, TN 37923

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
1	030204-31-01	Rm A1507 FSS Location A-01	3-3-04 1430	Smear		
2	02	02				
3	03	03				
4	04	04				
5	05	05				
6	06	06				
7	07	07				
8	08	08				

Special Instructions:

Possible Hazard Identification:
Non-haz ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal:
Return to Client ☐ Disposal by Lab ☒ Archive ☐

Turnaround Time Required:
Normal ☒ Rush ☐

QC Level:
I. ☐ II. ☐ III. ☐ Project Specific: Defined in QAPP

1. Relinquished by (Signature/Affiliation)	Date: 3-5-04 Time: 0805	1. Received by (Signature/Affiliation)	Date: 3.5.04 Time: 0805
2. Relinquished by (Signature/Affiliation)	Date: 3-8-04 Time: 1007	2. Received by (Signature/Affiliation) Paul Sabrosa	Date: 3-8-04 Time: 1007
3. Relinquished by Paul Sabrosa (Signature/Affiliation)	Date: 3-8-04 Time: 255	3. Received by (Signature/Affiliation)	Date: 3-8-04 Time: 1635

Comments:
ANALYSIS: GROSS Alpha/Beta - MDC (reporting limits) <1.1 dpm/smear for alpha
<100 dpm/smear for beta

Received by 1635 3-8-04

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: A1507-030204-31

0403061

Project Name/Project No. EPA NEIC EDDP / 101115 Lab Destination Paragon Analytics, Inc. Sample Shipment Date

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
9	030204-31 - 09	RmA1507 FSS Location A-09	3-3-04 1430	Smear		
10	-10	10				
11	-11	11				
12	-12	12				
13	-13	13				
14	-14	14				
15	-15	15				
16	-16	16				
17	-17	17				
18	-18	18				
19	-19	19				
20	-20	20				
21	-21	21				
22	-22	22				
23	-23	23				
24	-24	24				
25	-25	25				
26	-26	26				
27	-27	27				
28	-28	28				
29	-29	29				
30	-30	30				

Shaw
Shaw Environmental & Infrastructure, Inc.

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

Reference Document No: 41507-030 14-31

0403061

Project Name/Project No. EPA NEIC EDDP / 101115 Lab Destination Paragon Analytics, Inc. Sample Shipment Date

ONE SAMPLE PER LINE

	Sample Number (Client ID)	Sample Description	Date/Time Collected	Sample Type	Condition on Receipt	Disposal Record
31	030204-31 - 31	RmA1507 FSS Location A-31	3-3-04 1432	Smear		
32	32	32				
33	33	33				
34	34	34				
35	35	35				
36	36	36				
37	37	37				
38	38	38				
39	39	39				
40	40	BS-1507 - 1				
41	41	- 2				
42	42	- 3				
43	43	- 4				
44	44	- 5				
45	45	- 6				
46	46	- 7				
47	47	- 8				
48	48	- 9				
49	49	- 10				
50	-20FD	Rm 1507 FSS Loc. A-20 Field Dup				
51	-35 FD	-35 Field Dup				
52	-45FD	BS-1507-6 Field Dup				
53	-FB	Field Blank				

Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: Shaw Deic WORKORDER NO: 0403061

PROJECT MANAGER: DF INITIALS: CWO DATE: 3-9-04

1. Does this project require any special handling in addition to standard Paragon procedures?		Yes	No
IS PRE-SCREENING REQUIRED? (radiochemistry, DOE, etc.)		Yes	No
2. Are custody seals on shipping containers intact? How many custody seals are provided? _____	N/A	Yes	No
3. Are the custody seals on sample containers intact?	N/A	Yes	No
4. Is there a Chain-of-Custody (COC) or other representative documents, letters, or shipping memos?		Yes	No
5. Is the COC complete? Relinquished: Yes ✓ No___ Analyses Requested: Yes ✓ No___	N/A	Yes	No
6. Is the COC in agreement with the samples received? No. of Samples: Yes ✓ No___ Sample ID's: Yes ✓ No___ Matrix: Yes ✓ No___ No. of Containers: Yes ✓ No___	N/A	Yes	No
7. Were COC (if applicable) and sample labels legible?		Yes	No
8. Were airbills present and/or removable?	N/A	Yes	No
9. Are all aqueous samples requiring chemical preservation preserved correctly (excluding volatile organics)?	N/A	Yes	No
Are all aqueous non-preserved samples at the correct pH?		Yes	No
10. Is there enough sample for requested analyses? If so, were samples placed in the proper containers?		Yes	No
11. Are all samples within holding times for the requested analyses?		Yes	No
12. Were all sample containers received intact? (not broken or leaking, etc.)		Yes	No
13. Are samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? Size of bubble: ___ < green pea; ___ > green pea (List sample IDs and affected containers on Page 2)	N/A	Yes	No
14. Were samples checked for and free from the presence of residual chlorine?	N/A	Yes	No
15. Were the sample(s) shipped on ice?	N/A	Yes	No
16. Were cooler temperatures measured at 0.1 - 6 °C ? IR Gun Used*: 1 2	N/A	Yes	No
17. Were all samples cooled that should have been cooled?	N/A	Yes	No

Cooler #'s BW _____ _____ _____ _____ _____

Temperature ambient _____ _____ _____ _____ °C

Project Manager Signature / Date: Debbie Fazio 3/9/04

A NO RESPONSE TO ANY QUESTION EXCEPT # 1 REQUIRES THE COMPLETION OF PAGE 2 OF THIS FORM

* IR Gun #1 (original): Raytek, SN SC-PM3/T29403
IR Gun #2 (newer): Oakton, SN 2SCIR1201

Paragon Analytics

Radiochemistry Case Narrative
Gross Alpha/Beta

Shaw E & I

Denver NEIC ECCP / 101115

Paragon WO 0403061

1. This report consists of the analytical results and supporting documentation for 53 filter samples received by Paragon on 3/8/04.

2. These samples were prepared according to Paragon Analytics procedure SOP702R16.

3. The samples submitted by the client were placed in stainless steel counting planchets and were analyzed for gross alpha and beta activity by gas flow proportional counting according to Paragon Analytics procedure PA SOP724R8. The analyses were completed on 3/23/04. Calibrations and calculations are defined in Paragon Analytics procedure PA SOP702R16. Gross Alpha and Gross Beta results are referenced to NIST traceable planchet sources containing ^{241}Am and ^{90}Sr, respectively.

4. The analysis results for these samples are reported on an 'as received' basis in units of DPM/sample.

5. Sample volumes were insufficient to allow preparation of a duplicate. A duplicate analysis of samples 0403061-4,-14,-27,-37,-41,-52 was performed in lieu of a prepared duplicate. Please refer to cross reference table for client IDs.

6. PAI follows the convention outlined in ANSI N42.23 for reporting significant digits in the TPU and MDC results. ANSI N42.23 states that the TPU result should be rounded to two significant digits and that the MDC result should be rounded to the same decimal place as the TPU result. In practice, this could result in an MDC result with a reported value of 0 for samples with significant activity, including the batch laboratory control sample.

7. The magnitude of the negative alpha activity for some samples in this work order is greater than the 2 sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is not believed to be affected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

8. No anomalous situations were encountered during the preparation or analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Clare Lenich
Clare Lenich
Radiochemistry Instrument Technician

3/25/04
Date

Leah Backo
Radiochemistry Final Data Review

3/25/04
Date

1

PARAGON ANALYTICS
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:01 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-1	030204-31-01	Sample	GROSS ALPHA	-0.27 +/- 0.17	0.71	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-1	030204-31-01	Sample	GROSS BETA	-0.39 +/- 0.71	1.68	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-2	030204-31-02	Sample	GROSS ALPHA	-0.08 +/- 0.30	0.82	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-2	030204-31-02	Sample	GROSS BETA	-0.25 +/- 0.74	1.73	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-3	030204-31-03	Sample	GROSS ALPHA	0.04 +/- 0.31	0.77	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-3	030204-31-03	Sample	GROSS BETA	0.24 +/- 0.73	1.64	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-4	030204-31-04	Sample	GROSS ALPHA	0.02 +/- 0.24	0.61	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-4	030204-31-04	Sample	GROSS BETA	0.46 +/- 0.69	1.51	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-5	030204-31-05	Sample	GROSS ALPHA	-0.19 +/- 0.20	0.67	DPM/sample	WIPE	AB040312-2	3/16/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

000004

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:02 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-5	030204-31-05	Sample	GROSS BETA	0.14 +/- 0.65	1.48	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-6	030204-31-06	Sample	GROSS ALPHA	-0.08 +/- 0.25	0.71	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-6	030204-31-06	Sample	GROSS BETA	0.37 +/- 0.72	1.60	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-7	030204-31-07	Sample	GROSS ALPHA	-0.19 +/- 0.22	0.74	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-7	030204-31-07	Sample	GROSS BETA	-0.16 +/- 0.63	1.48	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-8	030204-31-08	Sample	GROSS ALPHA	-0.15 +/- 0.22	0.71	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-8	030204-31-08	Sample	GROSS BETA	0.32 +/- 0.75	1.68	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-9	030204-31-09	Sample	GROSS ALPHA	-0.17 +/- 0.27	0.82	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-9	030204-31-09	Sample	GROSS BETA	0.01 +/- 0.75	1.73	DPM/sample	WIPE	AB040312-2	3/16/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000005

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:02 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-10	030204-31-10	Sample	GROSS ALPHA	-0.08 +/- 0.28	0.77	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-10	030204-31-10	Sample	GROSS BETA	0.35 +/- 0.74	1.63	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-11	030204-31-11	Sample	GROSS ALPHA	0.06 +/- 0.25	0.61	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-11	030204-31-11	Sample	GROSS BETA	0.90 +/- 0.73	1.51	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-12	030204-31-12	Sample	GROSS ALPHA	-0.19 +/- 0.20	0.67	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-12	030204-31-12	Sample	GROSS BETA	-0.12 +/- 0.63	1.48	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-13	030204-31-13	Sample	GROSS ALPHA	-0.20 +/- 0.20	0.71	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-13	030204-31-13	Sample	GROSS BETA	-0.15 +/- 0.68	1.59	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-14	030204-31-14	Sample	GROSS ALPHA	-0.40 +/- 0.16	0.74	DPM/sample	WIPE	AB040312-2	3/16/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000006

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:02 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-14	030204-31-14	Sample	GROSS BETA	0.28 +/- 0.66	1.48	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-15	030204-31-15	Sample	GROSS ALPHA	-0.10 +/- 0.24	0.71	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-15	030204-31-15	Sample	GROSS BETA	-0.16 +/- 0.72	1.69	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-16	030204-31-16	Sample	GROSS ALPHA	-0.12 +/- 0.29	0.82	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-16	030204-31-16	Sample	GROSS BETA	-0.05 +/- 0.75	1.73	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-17	030204-31-17	Sample	GROSS ALPHA	0.04 +/- 0.31	0.77	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-17	030204-31-17	Sample	GROSS BETA	0.05 +/- 0.71	1.64	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-18	030204-31-18	Sample	GROSS ALPHA	0.06 +/- 0.25	0.61	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-18	030204-31-18	Sample	GROSS BETA	0.15 +/- 0.67	1.51	DPM/sample	WIPE	AB040312-2	3/16/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000007

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:02 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-19	030204-31-19	Sample	GROSS ALPHA	0.08 +/- 0.28	0.67	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-19	030204-31-19	Sample	GROSS BETA	0.50 +/- 0.69	1.49	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-20	030204-31-20	Sample	GROSS ALPHA	-0.20 +/- 0.20	0.71	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-20	030204-31-20	Sample	GROSS BETA	0.60 +/- 0.74	1.59	DPM/sample	WIPE	AB040312-2	3/16/04	U
0403061-21	030204-31-21	Sample	GROSS ALPHA	-0.09 +/- 0.33	0.90	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-21	030204-31-21	Sample	GROSS BETA	0.09 +/- 0.80	1.82	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-22	030204-31-22	Sample	GROSS ALPHA	0.02 +/- 0.28	0.71	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-22	030204-31-22	Sample	GROSS BETA	0.87 +/- 0.80	1.69	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-23	030204-31-23	Sample	GROSS ALPHA	-0.12 +/- 0.29	0.82	DPM/sample	WIPE	AB040312-3	3/16/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

000008

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:02 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-23	030204-31-23	Sample	GROSS BETA	1.04 +/- 0.84	1.73	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-24	030204-31-24	Sample	GROSS ALPHA	-0.08 +/- 0.28	0.77	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-24	030204-31-24	Sample	GROSS BETA	0.79 +/- 0.77	1.63	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-25	030204-31-25	Sample	GROSS ALPHA	0.02 +/- 0.24	0.61	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-25	030204-31-25	Sample	GROSS BETA	0.78 +/- 0.72	1.51	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-26	030204-31-26	Sample	GROSS ALPHA	-0.27 +/- 0.16	0.67	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-26	030204-31-26	Sample	GROSS BETA	-0.42 +/- 0.61	1.48	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-27	030204-31-27	Sample	GROSS ALPHA	-0.24 +/- 0.19	0.71	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-27	030204-31-27	Sample	GROSS BETA	0.89 +/- 0.76	1.59	DPM/sample	WIPE	AB040312-3	3/16/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000009

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:03 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-28	030204-31-28	Sample	GROSS ALPHA	-0.15 +/- 0.24	0.74	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-28	030204-31-28	Sample	GROSS BETA	0.79 +/- 0.71	1.48	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-29	030204-31-29	Sample	GROSS ALPHA	0.61 +/- 0.40	0.60	DPM/sample	WIPE	AB040312-3	3/16/04	LT J-15
0403061-29	030204-31-29	Sample	GROSS BETA	0.48 +/- 0.71	1.53	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-30	030204-31-30	Sample	GROSS ALPHA	0.17 +/- 0.29	0.63	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-30	030204-31-30	Sample	GROSS BETA	0.05 +/- 0.68	1.55	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-31	030204-31-31	Sample	GROSS ALPHA	-0.33 +/- 0.21	0.79	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-31	030204-31-31	Sample	GROSS BETA	-0.03 +/- 0.65	1.51	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-32	030204-31-32	Sample	GROSS ALPHA	0.14 +/- 0.31	0.71	DPM/sample	WIPE	AB040312-3	3/17/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:03 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-32	030204-31-32	Sample	GROSS BETA	0.34 +/- 0.76	1.69	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-33	030204-31-33	Sample	GROSS ALPHA	0.04 +/- 0.33	0.82	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-33	030204-31-33	Sample	GROSS BETA	0.41 +/- 0.79	1.74	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-34	030204-31-34	Sample	GROSS ALPHA	-0.08 +/- 0.28	0.77	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-34	030204-31-34	Sample	GROSS BETA	0.11 +/- 0.72	1.63	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-35	030204-31-35	Sample	GROSS ALPHA	0.10 +/- 0.26	0.61	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-35	030204-31-35	Sample	GROSS BETA	0.29 +/- 0.68	1.51	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-36	030204-31-36	Sample	GROSS ALPHA	0 +/- 0.26	0.67	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-36	030204-31-36	Sample	GROSS BETA	-0.03 +/- 0.64	1.49	DPM/sample	WIPE	AB040312-3	3/17/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000011

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:03 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-37	030204-31-37	Sample	GROSS ALPHA	-0.28 +/- 0.25	0.83	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-37	030204-31-37	Sample	GROSS BETA	1.27 +/- 0.79	1.56	DPM/sample	WIPE	AB040312-3	3/16/04	U
0403061-38	030204-31-38	Sample	GROSS ALPHA	0.05 +/- 0.30	0.74	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-38	030204-31-38	Sample	GROSS BETA	0.58 +/- 0.69	1.49	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-39	030204-31-39	Sample	GROSS ALPHA	0.09 +/- 0.27	0.63	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-39	030204-31-39	Sample	GROSS BETA	0.18 +/- 0.69	1.55	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-40	030204-31-40	Sample	GROSS ALPHA	-0.01 +/- 0.30	0.79	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-40	030204-31-40	Sample	GROSS BETA	-0.48 +/- 0.63	1.52	DPM/sample	WIPE	AB040312-3	3/17/04	U
0403061-41	030204-31-41	Sample	GROSS ALPHA	-0.28 +/- 0.22	0.76	DPM/sample	WIPE	AB040312-4	3/23/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

00012

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:03 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-41	030204-31-41	Sample	GROSS BETA	-0.35 +/- 0.62	1.48	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-42	030204-31-42	Sample	GROSS ALPHA	0.11 +/- 0.29	0.66	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-42	030204-31-42	Sample	GROSS BETA	-0.31 +/- 0.61	1.45	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-43	030204-31-43	Sample	GROSS ALPHA	0.44 +/- 0.40	0.74	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-43	030204-31-43	Sample	GROSS BETA	1.25 +/- 0.75	1.47	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-44	030204-31-44	Sample	GROSS ALPHA	0.10 +/- 0.27	0.62	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-44	030204-31-44	Sample	GROSS BETA	-0.02 +/- 0.62	1.43	DPM/sample	WIPE	AB040312-4	3/23/04	U
0403061-45	030204-31-45	Sample	GROSS ALPHA	-0.06 +/- 0.21	0.61	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-45	030204-31-45	Sample	GROSS BETA	0.63 +/- 0.70	1.51	DPM/sample	WIPE	AB040312-4	3/17/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000013

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:03 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-46	030204-31-46	Sample	GROSS ALPHA	-0.08 +/- 0.24	0.67	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-46	030204-31-46	Sample	GROSS BETA	0.61 +/- 0.69	1.48	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-47	030204-31-47	Sample	GROSS ALPHA	-0.08 +/- 0.25	0.71	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-47	030204-31-47	Sample	GROSS BETA	0.17 +/- 0.71	1.60	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-48	030204-31-48	Sample	GROSS ALPHA	0.01 +/- 0.29	0.74	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-48	030204-31-48	Sample	GROSS BETA	0.07 +/- 0.65	1.49	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-49	030204-31-49	Sample	GROSS ALPHA	0.30 +/- 0.32	0.60	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-49	030204-31-49	Sample	GROSS BETA	0.78 +/- 0.73	1.53	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-50	030204-31-20FD	Sample	GROSS ALPHA	-0.23 +/- 0.15	0.63	DPM/sample	WIPE	AB040312-4	3/17/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

000014

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Sample Results Summary

Client Name: Shaw E & I Inc.
Client Project Name: EPA NEIC EDDP
Client Project Number: 101115

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Reported on: Thursday, March 25, 2004 3:12:04 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0403061-50	030204-31-20FD	Sample	GROSS BETA	0.80 +/- 0.73	1.55	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-51	030204-31-35FD	Sample	GROSS ALPHA	-0.17 +/- 0.26	0.79	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-51	030204-31-35FD	Sample	GROSS BETA	-0.11 +/- 0.65	1.51	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-52	030204-31-45FD	Sample	GROSS ALPHA	0.18 +/- 0.37	0.83	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-52	030204-31-45FD	Sample	GROSS BETA	0.25 +/- 0.70	1.57	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-53	030204-31-FB	Sample	GROSS ALPHA	-0.29 +/- 0.23	0.82	DPM/sample	WIPE	AB040312-4	3/17/04	U
0403061-53	030204-31-FB	Sample	GROSS BETA	0.62 +/- 0.80	1.73	DPM/sample	WIPE	AB040312-4	3/17/04	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

PARAGON ANALYTICS

Radiochemistry Data Package

2

Section 2

QC RESULTS SUMMARY

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-2MB

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.19 +/- 0.22	0.74	U
12587-47-2	GROSS BETA	0.73 +/- 0.70	1.48	U

Comments:

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-3MB

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.05 +/- 0.34	0.83	U
12587-47-2	GROSS BETA	0.57 +/- 0.73	1.57	U

Comments:

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-4MB

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0317d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.16 +/- 0.34	0.77	U
12587-47-2	GROSS BETA	0.52 +/- 0.75	1.64	U

Comments:

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-2ALCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0316e

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	11200 +/- 1800	0	9950	112	70 - 130	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-2BLCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0316e

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-47-2	GROSS BETA	42100 +/- 6700	0	41000	103	70 - 130	P

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

LabID: AB040312-3ALCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0317a

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	11100 +/- 1800	0	9950	111	70 - 130	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-3BLCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0317b

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-47-2	GROSS BETA	41500 +/- 6600	0	41000	101	70 - 130	P

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-4ALCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0317e

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-46-1	GROSS ALPHA	10900 +/- 1700	0	9950	110	70 - 130	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Lab ID: AB040312-4BLCS

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 12-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 10 minutes

Final Aliquot: 1.00 sample
Result Units: DPM/sample
File Name: aba0317e

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
12587-47-2	GROSS BETA	39900 +/- 6400	0	41000	97.3	70 - 130	P

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-04
Lab ID	0403061-4DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	0.02 +/- 0.24	-0.18 +/- 0.31	0.51	2.13	U
12587-47-2	GROSS BETA	0.46 +/- 0.69	0.68 +/- 0.84	0.21	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 1030204-31-14
Lab ID: 0403061-14DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	-0.40 +/- 0.16	-0.05 +/- 0.34	0.94	2.13	U
12587-47-2	GROSS BETA	0.28 +/- 0.66	-0.24 +/- 0.78	0.51	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743).
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-27 **Lab ID:** 0403061-27DUP	**Sample Matrix:** WIPE **Prep SOP:** PAI 702 Rev 16 **Date Collected:** 03-Mar-04 **Date Prepared:** 12-Mar-04 **Date Analyzed:** 17-Mar-04	**Prep Batch:** AB040312-3 **QCBatchID:** AB040312-3-1 **Run ID:** ab040312-2a **Count Time:** 100 minutes **Report Basis:** As Received	**Final Aliquot:** 1.00 sample **Prep Basis:** As Received **Moisture(%):** NA **Result Units:** DPM/sample **File Name:** aba0317

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	-0.24 +/- 0.19	0.04 +/- 0.37	0.69	2.13	U
12587-47-2	GROSS BETA	0.89 +/- 0.76	0.12 +/- 0.80	0.69	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-37
Lab ID:	0403061-37DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	-0.28 +/- 0.25	-0.12 +/- 0.23	0.49	2.13	U
12587-47-2	GROSS BETA	1.27 +/- 0.79	-0.01 +/- 0.69	1.23	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - [illegible] Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-41
Lab ID: 0403061-41DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-4a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317d

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	-0.28 +/- 0.22	-0.06 +/- 0.25	0.66	2.13	U
12587-47-2	GROSS BETA	-0.35 +/- 0.62	-0.16 +/- 0.72	0.20	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-45FD
Lab ID: 0403061-52DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317d

CASNO	Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	DER	Control Limit	Lab Qualifiers
12587-46-1	GROSS ALPHA	0.18 +/- 0.37	0 +/- 0.35	0.35	2.13	U
12587-47-2	GROSS BETA	0.25 +/- 0.70	0.35 +/- 0.82	0.09	2.13	U

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - [illegible] Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *ABF0403061-1*

PARAGON ANALYTICS
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-01
Lab ID: 0403061-1

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.27 +/- 0.17	0.71	U
12587-47-2	GROSS BETA	-0.39 +/- 0.71	1.68	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-02
Lab ID: 0403061-2

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.30	0.82	U
12587-47-2	GROSS BETA	-0.25 +/- 0.74	1.73	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-03
Lab ID	0403061-3

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.04 +/- 0.31	0.77	U
12587-47-2	GROSS BETA	0.24 +/- 0.73	1.64	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-04
Lab ID: 0403061-4

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.02 +/- 0.24	0.61	U
12587-47-2	GROSS BETA	0.46 +/- 0.69	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-04
Lab ID:	0403061-4DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.18 +/- 0.31	0.90	U
12587-47-2	GROSS BETA	0.68 +/- 0.84	1.82	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-05
Lab ID: 0403061-5

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.19 +/- 0.20	0.67	U
12587-47-2	GROSS BETA	0.14 +/- 0.65	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-06
Lab ID	0403061-6

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.25	0.71	U
12587-47-2	GROSS BETA	0.37 +/- 0.72	1.60	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030204-31-07
Lab ID: 0403061-7

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316b

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.19 +/- 0.22	0.74	U
12587-47-2	GROSS BETA	-0.16 +/- 0.63	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030204-31-08
LabID: 0403061-8

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.15 +/- 0.22	0.71	U
12587-47-2	GROSS BETA	0.32 +/- 0.75	1.68	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-09
Lab ID: 0403061-9

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.17 +/- 0.27	0.82	U
12587-47-2	GROSS BETA	0.01 +/- 0.75	1.73	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-10
Lab ID	0403061-10

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.28	0.77	U
12587-47-2	GROSS BETA	0.35 +/- 0.74	1.63	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-11
Lab ID	0403061-11

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.06 +/- 0.25	0.61	U
12587-47-2	GROSS BETA	0.90 +/- 0.73	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-12
Lab ID: 0403061-12

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.19 +/- 0.20	0.67	U
12587-47-2	GROSS BETA	-0.12 +/- 0.63	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-13
Lab ID	0403061-13

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.20 +/- 0.20	0.71	U
12587-47-2	GROSS BETA	-0.15 +/- 0.68	1.59	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-14
Lab ID: 0403061-14

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.40 +/- 0.16	0.74	U
12587-47-2	GROSS BETA	0.28 +/- 0.66	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-14
Lab ID: 0403061-14DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.05 +/- 0.34	0.90	U
12587-47-2	GROSS BETA	-0.24 +/- 0.78	1.82	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-15
Lab ID:	0403061-15

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.10 +/- 0.24	0.71	U
12587-47-2	GROSS BETA	-0.16 +/- 0.72	1.69	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-16
Lab ID: 0403061-16

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.12 +/- 0.29	0.82	U
12587-47-2	GROSS BETA	-0.05 +/- 0.75	1.73	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-17	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-2	**Final Aliquot:** 1.00 sample
Lab ID: 0403061-17	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-2-1	**Prep Basis:** As Received
	Date Collected: 03-Mar-04	**Run ID:** ab040312-2a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 16-Mar-04	**Report Basis:** As Received	**File Name:** aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.04 +/- 0.31	0.77	U
12587-47-2	GROSS BETA	0.05 +/- 0.71	1.64	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-18
Lab ID	0403061-18

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.06 +/- 0.25	0.61	U
12587-47-2	GROSS BETA	0.15 +/- 0.67	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-19
Lab ID: 0403061-19

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.08 +/- 0.28	0.67	U
12587-47-2	GROSS BETA	0.50 +/- 0.69	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-20
Lab ID:	0403061-20

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-2
QCBatchID: AB040312-2-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.20 +/- 0.20	0.71	U
12587-47-2	GROSS BETA	0.60 +/- 0.74	1.59	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030204-31-21
LabID: 0403061-21

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.09 +/- 0.33	0.90	U
12587-47-2	GROSS BETA	0.09 +/- 0.80	1.82	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030204-31-22
LabID: 0403061-22

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.02 +/- 0.28	0.71	U
12587-47-2	GROSS BETA	0.87 +/- 0.80	1.69	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-23	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-3	**Final Aliquot:** 1.00 sample
Lab ID: 0403061-23	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-3-1	**Prep Basis:** As Received
	Date Collected: 03-Mar-04	**Run ID:** ab040312-2a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 16-Mar-04	**Report Basis:** As Received	**File Name:** aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.12 +/- 0.29	0.82	U
12587-47-2	GROSS BETA	1.04 +/- 0.84	1.73	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-24
Lab ID: 0403061-24

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.28	0.77	U
12587-47-2	GROSS BETA	0.79 +/- 0.77	1.63	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-25	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-3	**Final Aliquot:** 1.00 sample
Lab ID: 0403061-25	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-3-1	**Prep Basis:** As Received
	Date Collected: 03-Mar-04	**Run ID:** ab040312-2a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 16-Mar-04	**Report Basis:** As Received	**File Name:** aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.02 +/- 0.24	0.61	U
12587-47-2	GROSS BETA	0.78 +/- 0.72	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-26
Lab ID	0403061-26

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.27 +/- 0.16	0.67	U
12587-47-2	GROSS BETA	-0.42 +/- 0.61	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-27
Lab ID:	0403061-27

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.24 +/- 0.19	0.71	U
12587-47-2	GROSS BETA	0.89 +/- 0.76	1.59	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

*DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-27
Lab ID:	0403061-27DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.04 +/- 0.37	0.90	U
12587-47-2	GROSS BETA	0.12 +/- 0.80	1.82	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-28
Lab ID: 0403061-28

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.15 +/- 0.24	0.74	U
12587-47-2	GROSS BETA	0.79 +/- 0.71	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

*DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-29
Lab ID	0403061-29

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.61 +/- 0.40	0.60	LT
12587-47-2	GROSS BETA	0.48 +/- 0.71	1.53	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-30
Lab ID: 0403061-30

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.17 +/- 0.29	0.63	U
12587-47-2	GROSS BETA	0.05 +/- 0.68	1.55	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030204-31-31
LabID: 0403061-31

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.33 +/- 0.21	0.79	U
12587-47-2	GROSS BETA	-0.03 +/- 0.65	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-32
Lab ID:	0403061-32

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.14 +/- 0.31	0.71	U
12587-47-2	GROSS BETA	0.34 +/- 0.76	1.69	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-33
Lab ID: 0403061-33

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.04 +/- 0.33	0.82	U
12587-47-2	GROSS BETA	0.41 +/- 0.79	1.74	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-34
Lab ID: 0403061-34

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.28	0.77	U
12587-47-2	GROSS BETA	0.11 +/- 0.72	1.63	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-35
Lab ID: 0403061-35

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.10 +/- 0.26	0.61	U
12587-47-2	GROSS BETA	0.29 +/- 0.68	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-36
Lab ID: 0403061-36

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0 +/- 0.26	0.67	U
12587-47-2	GROSS BETA	-0.03 +/- 0.64	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID	030204-31-37
LabID	0403061-37

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 16-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0316h

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.28 +/- 0.25	0.83	U
12587-47-2	GROSS BETA	1.27 +/- 0.79	1.56	U

Comments:

Qualifiers/Flags:

U' - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-37
Lab ID:	0403061-37DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.12 +/- 0.23	0.71	U
12587-47-2	GROSS BETA	-0.01 +/- 0.69	1.60	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC; greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-38
Lab ID:	0403061-38

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.05 +/- 0.30	0.74	U
12587-47-2	GROSS BETA	0.58 +/- 0.69	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-39
Lab ID: 0403061-39

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.09 +/- 0.27	0.63	U
12587-47-2	GROSS BETA	0.18 +/- 0.69	1.55	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-40
Lab ID: 0403061-40

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-3
QCBatchID: AB040312-3-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.01 +/- 0.30	0.79	U
12587-47-2	GROSS BETA	-0.48 +/- 0.63	1.52	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-41
Lab ID:	0403061-41

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-4a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323g

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.28 +/- 0.22	0.76	U
12587-47-2	GROSS BETA	-0.35 +/- 0.62	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID:	030204-31-41
LabID:	0403061-41DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-4a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.06 +/- 0.25	0.71	U
12587-47-2	GROSS BETA	-0.16 +/- 0.72	1.69	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID	030204-31-42
Lab ID	0403061-42

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-4a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323g

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.11 +/- 0.29	0.66	U
12587-47-2	GROSS BETA	-0.31 +/- 0.61	1.45	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-43
Lab ID:	0403061-43

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-4a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323g

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.44 +/- 0.40	0.74	U
12587-47-2	GROSS BETA	1.25 +/- 0.75	1.47	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-44
Lab ID: 0403061-44

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 23-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-4a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: abb0323g

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.10 +/- 0.27	0.62	U
12587-47-2	GROSS BETA	-0.02 +/- 0.62	1.43	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-45
Lab ID: 0403061-45

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.06 +/- 0.21	0.61	U
12587-47-2	GROSS BETA	0.63 +/- 0.70	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-46
Lab ID: 0403061-46

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.24	0.67	U
12587-47-2	GROSS BETA	0.61 +/- 0.69	1.48	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-47
Lab ID: 0403061-47

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.08 +/- 0.25	0.71	U
12587-47-2	GROSS BETA	0.17 +/- 0.71	1.60	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-48
Lab ID:	0403061-48

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.01 +/- 0.29	0.74	U
12587-47-2	GROSS BETA	0.07 +/- 0.65	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

FieldID: 030204-31-49
LabID: 0403061-49

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.30 +/- 0.32	0.60	U
12587-47-2	GROSS BETA	0.78 +/- 0.73	1.53	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-20FD	**Sample Matrix:** WIPE	**Prep Batch:** AB040312-4	**Final Aliquot:** 1.00 sample
Lab ID: 0403061-50	**Prep SOP:** PAI 702 Rev 16	**QCBatchID:** AB040312-4-1	**Prep Basis:** As Received
	Date Collected: 03-Mar-04	**Run ID:** ab040312-2a	**Moisture(%):** NA
	Date Prepared: 12-Mar-04	**Count Time:** 100 minutes	**Result Units:** DPM/sample
	Date Analyzed: 17-Mar-04	**Report Basis:** As Received	**File Name:** aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.23 +/- 0.15	0.63	U
12587-47-2	GROSS BETA	0.80 +/- 0.73	1.55	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

DL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-35FD
Lab ID:	0403061-51

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.17 +/- 0.26	0.79	U
12587-47-2	GROSS BETA	-0.11 +/- 0.65	1.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID:	030204-31-45FD
Lab ID:	0403061-52

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317c

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0.18 +/- 0.37	0.83	U
12587-47-2	GROSS BETA	0.25 +/- 0.70	1.57	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-45FD
Lab ID: 0403061-52DUP

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	0 +/- 0.35	0.90	U
12587-47-2	GROSS BETA	0.35 +/- 0.82	1.82	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

Gross Alpha/Beta Analysis by GFPC Wipe/Filter

PAI 724 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0403061
Client Name: Shaw E & I Inc.
ClientProject ID: EPA NEIC EDDP 101115

Field ID: 030204-31-FB
Lab ID: 0403061-53

Sample Matrix: WIPE
Prep SOP: PAI 702 Rev 16
Date Collected: 03-Mar-04
Date Prepared: 12-Mar-04
Date Analyzed: 17-Mar-04

Prep Batch: AB040312-4
QCBatchID: AB040312-4-1
Run ID: ab040312-2a
Count Time: 100 minutes
Report Basis: As Received

Final Aliquot: 1.00 sample
Prep Basis: As Received
Moisture(%): NA
Result Units: DPM/sample
File Name: aba0317d

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
12587-46-1	GROSS ALPHA	-0.29 +/- 0.23	0.82	U
12587-47-2	GROSS BETA	0.62 +/- 0.80	1.73	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *ABF0403061-1*

PARAGON ANALYTICS
Radiochemistry Data Package

4

Section 4

RAW DATA

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-1	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.030	24.15%	100	-0.27	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A2	aba0316b	9:35 AM	0.094	NA	NA	0.17	NA	As Received	NA	U
0403061-1	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.800	40.26%	100	-0.39	1.68	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A2	aba0316b	9:35 AM	1.950	NA	NA	0.71	NA	As Received	NA	U
0403061-2	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.110	23.75%	100	-0.08	0.82	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A3	aba0316b	9:35 AM	0.128	NA	NA	0.30	NA	As Received	NA	U
0403061-2	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.000	40.43%	100	-0.25	1.73	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A3	aba0316b	9:35 AM	2.080	NA	NA	0.74	NA	As Received	NA	U
0403061-3	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.130	24.44%	100	0.04	0.77	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A4	aba0316b	9:35 AM	0.118	NA	NA	0.31	NA	As Received	NA	U
0403061-3	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.030	41.13%	100	0.24	1.64	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A4	aba0316b	9:35 AM	1.911	NA	NA	0.73	NA	As Received	NA	U
0403061-4	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.080	25.10%	100	0.02	0.61	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B1	aba0316b	9:35 AM	0.072	NA	NA	0.24	NA	As Received	NA	U
0403061-4	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.990	43.00%	100	0.46	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B1	aba0316b	9:35 AM	1.780	NA	NA	0.69	NA	As Received	NA	U
0403061-4	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.110	23.03%	100	-0.18	0.90	DPM/sample	0.51	
DUP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A1	aba0316c	11:33 AM	0.149	NA	NA	0.31	NA	As Received	NA	U
0403061-4	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.640	40.74%	100	0.68	1.82	DPM/sample	0.21	
DUP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A1	aba0316c	11:33 AM	2.340	NA	NA	0.84	NA	As Received	NA	U
0403061-5	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.050	25.86%	100	-0.19	0.67	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B2	aba0316b	9:35 AM	0.097	NA	NA	0.20	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000093

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-5	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.760	42.80%	100	0.14	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B2	aba0316b	9:35 AM	1.692	NA	NA	0.65	NA	As Received	NA	U
0403061-6	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.080	24.48%	100	-0.08	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B3	aba0316b	9:35 AM	0.098	NA	NA	0.25	NA	As Received	NA	U
0403061-6	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.040	41.70%	100	0.37	1.60	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B3	aba0316b	9:35 AM	1.871	NA	NA	0.72	NA	As Received	NA	U
0403061-7	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.060	24.23%	100	-0.19	0.74	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B4	aba0316b	9:35 AM	0.105	NA	NA	0.22	NA	As Received	NA	U
0403061-7	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.640	42.83%	100	-0.16	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B4	aba0316b	9:35 AM	1.697	NA	NA	0.63	NA	As Received	NA	U
0403061-8	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.060	24.15%	100	-0.15	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A2	aba0316c	11:33 AM	0.094	NA	NA	0.22	NA	As Received	NA	U
0403061-8	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.090	40.28%	100	0.32	1.68	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A2	aba0316c	11:33 AM	1.950	NA	NA	0.75	NA	As Received	NA	U
0403061-9	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.090	23.75%	100	-0.17	0.82	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A3	aba0316c	11:33 AM	0.128	NA	NA	0.27	NA	As Received	NA	U
0403061-9	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.100	40.43%	100	0.01	1.73	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A3	aba0316c	11:33 AM	2.080	NA	NA	0.75	NA	As Received	NA	U
0403061-10	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.100	24.44%	100	-0.08	0.77	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A4	aba0316c	11:33 AM	0.118	NA	NA	0.28	NA	As Received	NA	U
0403061-10	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.070	41.13%	100	0.35	1.63	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A4	aba0316c	11:33 AM	1.911	NA	NA	0.74	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000094

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-11	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.090	25.10%	100	0.06	0.61	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B1	aba0316c	11:33 AM	0.072	NA	NA	0.25	NA	As Received	NA	U
0403061-11	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.180	43.00%	100	0.90	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B1	aba0316c	11:33 AM	1.780	NA	NA	0.73	NA	As Received	NA	U
0403061-12	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.050	25.86%	100	-0.19	0.67	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B2	aba0316c	11:33 AM	0.097	NA	NA	0.20	NA	As Received	NA	U
0403061-12	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.650	42.80%	100	-0.12	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B2	aba0316c	11:33 AM	1.692	NA	NA	0.63	NA	As Received	NA	U
0403061-13	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.050	24.48%	100	-0.20	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B3	aba0316c	11:33 AM	0.098	NA	NA	0.20	NA	As Received	NA	U
0403061-13	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.820	41.70%	100	-0.15	1.59	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B3	aba0316c	11:33 AM	1.871	NA	NA	0.68	NA	As Received	NA	U
0403061-14	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.010	24.23%	100	-0.40	0.74	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B4	aba0316c	11:33 AM	0.105	NA	NA	0.16	NA	As Received	NA	U
0403061-14	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.820	42.83%	100	0.28	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B4	aba0316c	11:33 AM	1.697	NA	NA	0.66	NA	As Received	NA	U
0403061-14	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.140	23.03%	100	-0.05	0.90	DPM/sample	0.94	
DUP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A1	aba0316d	1:53 PM	0.149	NA	NA	0.34	NA	As Received	NA	U
0403061-14	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.270	40.74%	100	-0.24	1.82	DPM/sample	0.51	
DUP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A1	aba0316d	1:53 PM	2.340	NA	NA	0.78	NA	As Received	NA	U
0403061-15	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.070	24.15%	100	-0.10	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A2	aba0316d	1:53 PM	0.094	NA	NA	0.24	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000095

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-15	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.900	40.26%	100	-0.16	1.69	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A2	aba0316d	1:53 PM	1.950	NA	NA	0.72	NA	As Received	NA	U
0403061-16	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.100	23.75%	100	-0.12	0.82	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A3	aba0316d	1:53 PM	0.128	NA	NA	0.29	NA	As Received	NA	U
0403061-16	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.080	40.43%	100	-0.05	1.73	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A3	aba0316d	1:53 PM	2.080	NA	NA	0.75	NA	As Received	NA	U
0403061-17	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.130	24.44%	100	0.04	0.77	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A4	aba0316d	1:53 PM	0.118	NA	NA	0.31	NA	As Received	NA	U
0403061-17	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.950	41.13%	100	0.05	1.64	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	A4	aba0316d	1:53 PM	1.911	NA	NA	0.71	NA	As Received	NA	U
0403061-18	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.090	25.10%	100	0.06	0.61	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B1	aba0316d	1:53 PM	0.072	NA	NA	0.25	NA	As Received	NA	U
0403061-18	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.860	43.00%	100	0.15	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B1	aba0316d	1:53 PM	1.780	NA	NA	0.67	NA	As Received	NA	U
0403061-19	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.120	25.86%	100	0.08	0.67	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B2	aba0316d	1:53 PM	0.097	NA	NA	0.28	NA	As Received	NA	U
0403061-19	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.930	42.80%	100	0.50	1.49	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B2	aba0316d	1:53 PM	1.692	NA	NA	0.69	NA	As Received	NA	U
0403061-20	GROSS ALPHA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.050	24.48%	100	-0.20	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B3	aba0316d	1:53 PM	0.098	NA	NA	0.20	NA	As Received	NA	U
0403061-20	GROSS BETA	3/3/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.130	41.70%	100	0.60	1.59	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-2-1	NA	NA	NA	1 s	B3	aba0316d	1:53 PM	1.871	NA	NA	0.74	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000096

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-21	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.130	23.03%	100	-0.09	0.90	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A1	aba0316h	3:51 PM	0.149	NA	NA	0.33	NA	As Received	NA	U
0403061-21	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.400	40.74%	100	0.09	1.82	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A1	aba0316h	3:51 PM	2.340	NA	NA	0.80	NA	As Received	NA	U
0403061-22	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.100	24.15%	100	0.02	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A2	aba0316h	3:51 PM	0.094	NA	NA	0.28	NA	As Received	NA	U
0403061-22	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.320	40.26%	100	0.87	1.69	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A2	aba0316h	3:51 PM	1.950	NA	NA	0.80	NA	As Received	NA	U
0403061-23	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.100	23.75%	100	-0.12	0.82	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A3	aba0316h	3:51 PM	0.128	NA	NA	0.29	NA	As Received	NA	U
0403061-23	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.520	40.43%	100	1.04	1.73	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A3	aba0316h	3:51 PM	2.080	NA	NA	0.84	NA	As Received	NA	U
0403061-24	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.100	24.44%	100	-0.08	0.77	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A4	aba0316h	3:51 PM	0.118	NA	NA	0.28	NA	As Received	NA	U
0403061-24	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.250	41.13%	100	0.79	1.63	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A4	aba0316h	3:51 PM	1.911	NA	NA	0.77	NA	As Received	NA	U
0403061-25	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.080	25.10%	100	0.02	0.61	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B1	aba0316h	3:51 PM	0.072	NA	NA	0.24	NA	As Received	NA	U
0403061-25	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.130	43.00%	100	0.78	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B1	aba0316h	3:51 PM	1.780	NA	NA	0.72	NA	As Received	NA	U
0403061-26	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.030	25.86%	100	-0.27	0.67	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B2	aba0316h	3:51 PM	0.097	NA	NA	0.16	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
\# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

0097

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-26	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.520	42.80%	100	-0.42	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B2	aba0316h	3:51 PM	1.692	NA	NA	0.61	NA	As Received	NA	U
0403061-27	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.040	24.48%	100	-0.24	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B3	aba0316h	3:51 PM	0.098	NA	NA	0.19	NA	As Received	NA	U
0403061-27	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.250	41.70%	100	0.89	1.59	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B3	aba0316h	3:51 PM	1.871	NA	NA	0.76	NA	As Received	NA	U
0403061-27	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.160	23.03%	100	0.04	0.90	DPM/sample	0.69	
DUP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A1	aba0317	8:10 AM	0.149	NA	NA	0.37	NA	As Received	NA	U
0403061-27	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.420	40.74%	100	0.12	1.82	DPM/sample	0.69	
DUP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	A1	aba0317	8:10 AM	2.340	NA	NA	0.80	NA	As Received	NA	U
0403061-28	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.070	24.23%	100	-0.15	0.74	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B4	aba0316h	3:51 PM	0.105	NA	NA	0.24	NA	As Received	NA	U
0403061-28	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.050	42.83%	100	0.79	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	B4	aba0316h	3:51 PM	1.697	NA	NA	0.71	NA	As Received	NA	U
0403061-29	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.230	25.48%	100	0.61	0.60	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	C1	aba0316h	3:51 PM	0.073	NA	NA	0.40	NA	As Received	NA	LT
0403061-29	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.890	41.18%	100	0.48	1.53	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	C1	aba0316h	3:51 PM	1.661	NA	NA	0.71	NA	As Received	NA	U
0403061-30	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.120	24.82%	100	0.17	0.63	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	C2	aba0316h	3:51 PM	0.075	NA	NA	0.29	NA	As Received	NA	U
0403061-30	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.770	41.32%	100	0.05	1.55	DPM/sample	NA	
SMP	Trg. Analyte	2:30:00 PM	AB040312-3-1	NA	NA	NA	1 s	C2	aba0316h	3:51 PM	1.728	NA	NA	0.68	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

00098

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-31	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.050	24.96%	100	-0.33	0.79	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C3	aba0316h	3:51 PM	0.132	NA	NA	0.21	NA	As Received	NA	U
0403061-31	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	1.780	43.00%	100	-0.03	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C3	aba0316h	3:51 PM	1.782	NA	NA	0.65	NA	As Received	NA	U
0403061-32	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.130	24.15%	100	0.14	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	A2	aba0317	8:10 AM	0.094	NA	NA	0.31	NA	As Received	NA	U
0403061-32	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.110	40.26%	100	0.34	1.69	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	A2	aba0317	8:10 AM	1.950	NA	NA	0.76	NA	As Received	NA	U
0403061-33	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.140	23.75%	100	0.04	0.82	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	A3	aba0317	8:10 AM	0.128	NA	NA	0.33	NA	As Received	NA	U
0403061-33	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.270	40.43%	100	0.41	1.74	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	A3	aba0317	8:10 AM	2.080	NA	NA	0.79	NA	As Received	NA	U
0403061-34	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.100	24.44%	100	-0.08	0.77	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	A4	aba0317	8:10 AM	0.118	NA	NA	0.28	NA	As Received	NA	U
0403061-34	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.970	41.13%	100	0.11	1.63	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	A4	aba0317	8:10 AM	1.911	NA	NA	0.72	NA	As Received	NA	U
0403061-35	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.100	25.10%	100	0.10	0.61	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B1	aba0317	8:10 AM	0.072	NA	NA	0.26	NA	As Received	NA	U
0403061-35	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.920	43.00%	100	0.29	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B1	aba0317	8:10 AM	1.780	NA	NA	0.68	NA	As Received	NA	U
0403061-36	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.100	25.86%	100	0	0.67	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B2	aba0317	8:10 AM	0.097	NA	NA	0.26	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
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H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
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Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000099

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-36	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.700	42.80%	100	-0.03	1.49	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B2	aba0317	8:10 AM	1.692	NA	NA	0.64	NA	As Received	NA	U
0403061-37	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.070	23.99%	100	-0.28	0.83	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C4	aba0316h	3:51 PM	0.137	NA	NA	0.25	NA	As Received	NA	U
0403061-37	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.370	42.01%	100	1.27	1.56	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C4	aba0316h	3:51 PM	1.821	NA	NA	0.79	NA	As Received	NA	U
0403061-37	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.070	24.48%	100	-0.12	0.71	DPM/sample	0.49	
DUP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B3	aba0317	8:10 AM	0.098	NA	NA	0.23	NA	As Received	NA	U
0403061-37	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.880	41.70%	100	-0.01	1.60	DPM/sample	1.23	
DUP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B3	aba0317	8:10 AM	1.871	NA	NA	0.69	NA	As Received	NA	U
0403061-38	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.120	24.23%	100	0.05	0.74	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B4	aba0317	8:10 AM	0.105	NA	NA	0.30	NA	As Received	NA	U
0403061-38	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.970	42.83%	100	0.58	1.49	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	B4	aba0317	8:10 AM	1.697	NA	NA	0.69	NA	As Received	NA	U
0403061-39	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.100	24.82%	100	0.09	0.63	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C2	aba0317	8:10 AM	0.075	NA	NA	0.27	NA	As Received	NA	U
0403061-39	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.820	41.32%	100	0.18	1.55	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C2	aba0317	8:10 AM	1.728	NA	NA	0.69	NA	As Received	NA	U
0403061-40	GROSS ALPHA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.130	24.96%	100	-0.01	0.79	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C3	aba0317	8:10 AM	0.132	NA	NA	0.30	NA	As Received	NA	U
0403061-40	GROSS BETA	3/3/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.600	43.00%	100	-0.48	1.52	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-3-1	NA	NA	NA	1 s	C3	aba0317	8:10 AM	1.782	NA	NA	0.63	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

00100

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:06:41 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-41	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	0.060	25.68%	100	-0.28	0.76	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C1	abb0323g	12:12 PM	0.128	NA	NA	0.22	NA	As Received	NA	U
0403061-41	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	1.490	42.01%	100	-0.35	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C1	abb0323g	12:12 PM	1.626	NA	NA	0.62	NA	As Received	NA	U
0403061-41	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-4a	3/17/04	0.080	24.15%	100	-0.06	0.71	DPM/sample	0.66	
DUP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	A2	aba0317d	12:46 PM	0.094	NA	NA	0.25	NA	As Received	NA	U
0403061-41	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-4a	3/17/04	1.900	40.26%	100	-0.16	1.69	DPM/sample	0.20	
DUP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	A2	aba0317d	12:46 PM	1.950	NA	NA	0.72	NA	As Received	NA	U
0403061-42	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	0.120	25.53%	100	0.11	0.66	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C2	abb0323g	12:12 PM	0.089	NA	NA	0.29	NA	As Received	NA	U
0403061-42	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	1.440	41.94%	100	-0.31	1.45	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C2	abb0323g	12:12 PM	1.550	NA	NA	0.61	NA	As Received	NA	U
0403061-43	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	0.230	25.24%	100	0.44	0.74	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C3	abb0323g	12:12 PM	0.111	NA	NA	0.40	NA	As Received	NA	U
0403061-43	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	2.090	41.54%	100	1.25	1.47	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C3	abb0323g	12:12 PM	1.527	NA	NA	0.75	NA	As Received	NA	U
0403061-44	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	0.100	24.72%	100	0.10	0.62	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C4	abb0323g	12:12 PM	0.073	NA	NA	0.27	NA	As Received	NA	U
0403061-44	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-b	ab040312-4a	3/23/04	1.520	41.98%	100	-0.02	1.43	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C4	abb0323g	12:12 PM	1.509	NA	NA	0.62	NA	As Received	NA	U
0403061-45	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.060	25.10%	100	-0.06	0.61	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	B1	aba0317c	10:03 AM	0.072	NA	NA	0.21	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000101

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
0403061-45	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	2.060	43.00%	100	0.63	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B1	aba0317c	10:03 AM	1.780	NA	NA	0.70	NA	As Received	NA	U
0403061-46	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	0.080	25.86%	100	-0.08	0.67	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B2	aba0317c	10:03 AM	0.097	NA	NA	0.24	NA	As Received	NA	U
0403061-46	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	1.970	42.80%	100	0.61	1.48	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B2	aba0317c	10:03 AM	1.692	NA	NA	0.69	NA	As Received	NA	U
0403061-47	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	0.080	24.48%	100	-0.08	0.71	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B3	aba0317c	10:03 AM	0.098	NA	NA	0.25	NA	As Received	NA	U
0403061-47	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	1.960	41.70%	100	0.17	1.60	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B3	aba0317c	10:03 AM	1.871	NA	NA	0.71	NA	As Received	NA	U
0403061-48	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	0.110	24.23%	100	0.01	0.74	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B4	aba0317c	10:03 AM	0.105	NA	NA	0.29	NA	As Received	NA	U
0403061-48	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	1.750	42.83%	100	0.07	1.49	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	B4	aba0317c	10:03 AM	1.697	NA	NA	0.65	NA	As Received	NA	U
0403061-49	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	0.150	25.48%	100	0.30	0.60	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	C1	aba0317c	10:03 AM	0.073	NA	NA	0.32	NA	As Received	NA	U
0403061-49	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	2.000	41.18%	100	0.78	1.53	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	C1	aba0317c	10:03 AM	1.661	NA	NA	0.73	NA	As Received	NA	U
0403061-50	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	0.020	24.82%	100	-0.23	0.63	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	C2	aba0317c	10:03 AM	0.075	NA	NA	0.15	NA	As Received	NA	U
0403061-50	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 #	LB4100-a	ab040312-2a	3/17/04	2.060	41.32%	100	0.80	1.55	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 #	C2	aba0317c	10:03 AM	1.728	NA	NA	0.73	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
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H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

000102

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics | **Prep SOP:** PAI 702 | **Reported on:** Thursday, March 25, 2004

PAI Work Order: 0403061 | **Analytical SOP:** PAI 724 | 3:07:52 PM

Sample ID / QC Type	Nuclide / Type	Sample Date/Time	Prep Batch / QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix / %Moist.	Samp Alq / Analy Alq	Inst ID / Det ID	AnRunID / File Name	Count Date/Time	GrossCPM / BkgCPM	BaseEff / ProgEff	CntDur(min) / Yield	Activity +/- / 2 s TPU	MDC / DecLev	ReportUnits / ReportBasis	DER / RPD	%Spk. Recov / Flags
0403061-51	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.090	24.96%	100	-0.17	0.79	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C3	aba0317c	10:03 AM	0.132	NA	NA	0.26	NA	As Received	NA	U
0403061-51	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.750	43.00%	100	-0.11	1.51	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C3	aba0317c	10:03 AM	1.782	NA	NA	0.65	NA	As Received	NA	U
0403061-52	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.180	23.99%	100	0.18	0.83	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C4	aba0317c	10:03 AM	0.137	NA	NA	0.37	NA	As Received	NA	U
0403061-52	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	1.960	42.01%	100	0.25	1.57	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	C4	aba0317c	10:03 AM	1.821	NA	NA	0.70	NA	As Received	NA	U
0403061-52	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.150	23.03%	100	0	0.90	DPM/sample	0.35	
DUP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	A1	aba0317d	12:46 PM	0.149	NA	NA	0.35	NA	As Received	NA	U
0403061-52	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.510	40.74%	100	0.35	1.82	DPM/sample	0.09	
DUP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	A1	aba0317d	12:46 PM	2.340	NA	NA	0.82	NA	As Received	NA	U
0403061-53	GROSS ALPHA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.060	23.75%	100	-0.29	0.82	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	A3	aba0317d	12:46 PM	0.128	NA	NA	0.23	NA	As Received	NA	U
0403061-53	GROSS BETA	3/3/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.340	40.43%	100	0.62	1.73	DPM/sample	NA	
SMP	Trg. Analyte	2:32:00 PM	AB040312-4-1	NA	NA	NA	1 s	A3	aba0317d	12:46 PM	2.080	NA	NA	0.80	NA	As Received	NA	U
AB040312-2A	GROSS ALPHA	3/12/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2846.300	25.48%	10	11200	0	DPM/sample	NA	112
LCS	Trg. Analyte	10:18:13 AM	AB040312-2-1	NA	NA	NA	1 s	C1	aba0316e	2:27 PM	0.073	NA	NA	1800	NA	As Received	NA	P,M3
AB040312-2B	GROSS BETA	3/12/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	17401.500	41.32%	10	42100	0	DPM/sample	NA	103
LCS	Trg. Analyte	10:18:13 AM	AB040312-2-1	NA	NA	NA	1 s	C2	aba0316e	2:27 PM	1.728	NA	NA	6700	NA	As Received	NA	P
AB040312-2	GROSS ALPHA	3/12/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	0.060	24.23%	100	-0.19	0.74	DPM/sample	NA	
MB	Trg. Analyte	10:18:13 AM	AB040312-2-1	NA	NA	NA	1 s	B4	aba0316d	1:53 PM	0.105	NA	NA	0.22	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

Gross Alpha/Beta Analysis by GFPC Wipe/Filter Raw Data Report

Laboratory Name: Paragon Analytics
PAI Work Order: 0403061

Prep SOP: PAI 702
Analytical SOP: PAI 724

Reported on: Thursday, March 25, 2004
3:07:52 PM

Sample ID QC Type	Nuclide Type	Sample Date/Time	Prep Batch QCBatchID	Ingrowth Date /Time	Decay Date/Time	Matrix %Moist.	Samp Alq Analy Alq	Inst ID Det ID	AnRunID File Name	Count Date/Time	GrossCPM BkgCPM	BaseEff ProgEff	CntDur(min) Yield	Activity +/- 2 s TPU	MDC DecLev	ReportUnits ReportBasis	DER RPD	%Spk. Recov Flags
AB040312-2	GROSS BETA	3/12/04	AB040312-2	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/16/04	2.020	42.83%	100	0.73	1.48	DPM/sample	NA	
MB	Trg. Analyte	10:18:13 AM	AB040312-2-1	NA	NA	NA	1 s	B4	aba0316d	1:53 PM	1.697	NA	NA	0.70	NA	As Received	NA	U
AB040312-3A	GROSS ALPHA	3/12/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2821.800	25.48%	10	11100	0	DPM/sample	NA	111
LCS	Trg. Analyte	10:27:34 AM	AB040312-3-1	NA	NA	NA	1 s	C1	aba0317a	9:12 AM	0.073	NA	NA	1800	NA	As Received	NA	P,M3
AB040312-3B	GROSS BETA	3/12/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	17428.500	42.01%	10	41500	0	DPM/sample	NA	101
LCS	Trg. Analyte	10:27:34 AM	AB040312-3-1	NA	NA	NA	1 s	C4	aba0317b	9:57 AM	1.821	NA	NA	6600	NA	As Received	NA	P
AB040312-3	GROSS ALPHA	3/12/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.150	23.99%	100	0.05	0.83	DPM/sample	NA	
MB	Trg. Analyte	10:27:34 AM	AB040312-3-1	NA	NA	NA	1 s	C4	aba0317	8:10 AM	0.137	NA	NA	0.34	NA	As Received	NA	U
AB040312-3	GROSS BETA	3/12/04	AB040312-3	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.090	42.01%	100	0.57	1.57	DPM/sample	NA	
MB	Trg. Analyte	10:27:34 AM	AB040312-3-1	NA	NA	NA	1 s	C4	aba0317	8:10 AM	1.821	NA	NA	0.73	NA	As Received	NA	U
AB040312-4A	GROSS ALPHA	3/12/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2738.300	25.10%	10	10900	0	DPM/sample	NA	110
LCS	Trg. Analyte	10:34:48 AM	AB040312-4-1	NA	NA	NA	1 s	B1	aba0317e	12:46 PM	0.072	NA	NA	1700	NA	As Received	NA	P,M3
AB040312-4B	GROSS BETA	3/12/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	17080.699	42.80%	10	39900	0	DPM/sample	NA	97.3
LCS	Trg. Analyte	10:34:48 AM	AB040312-4-1	NA	NA	NA	1 s	B2	aba0317e	12:46 PM	1.692	NA	NA	6400	NA	As Received	NA	P
AB040312-4	GROSS ALPHA	3/12/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	0.160	24.44%	100	0.16	0.77	DPM/sample	NA	
MB	Trg. Analyte	10:34:48 AM	AB040312-4-1	NA	NA	NA	1 s	A4	aba0317d	12:46 PM	0.118	NA	NA	0.34	NA	As Received	NA	U
AB040312-4	GROSS BETA	3/12/04	AB040312-4	NA	NA	WIPE	1 s	LB4100-a	ab040312-2a	3/17/04	2.150	41.13%	100	0.52	1.64	DPM/sample	NA	
MB	Trg. Analyte	10:34:48 AM	AB040312-4-1	NA	NA	NA	1 s	A4	aba0317d	12:46 PM	1.911	NA	NA	0.75	NA	As Received	NA	U

Comments:

Data Package ID: *abf0403061-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
+ - Duplicate RPD not within limits.
LT - Result is less than Request MDC, greater than sample specific MDC
* - Aliquot Basis is 'As Recieved' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Recieved'.

M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Notes:

1) The Tracer results are not yield corrected (i.e. activity measured not activity added).
2) Where sample time is not available, 12:00 PM (Mountain) is used for decay correction.

Abbreviations:

TR- Tracer TA - Target Analyte
TPU - Total Propagated Uncertainty (see PAI SOP 743)
MDC - Minimum Detectable Concentration (see PAI SOP 709)
DER - Duplicate Error Ratio
BDL - Below Detection Limit

0104

PAI - Ga Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE

Data file name: ABA0316B
Batch ID: AB040312-2
Count Preset (m): 100
Batch Ended: 3/16/04 11:14

Background logfile: BKGAb
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(a*(mass-x0))		Beta Attenuation Calibration y = b*m^(a*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
a=	0.0000	a=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m *b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.00E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
A2	0403061-1	3/16/04 11:14	100.00	0.0	0.030	0.094	0.001	0.2415	n/a	n/a	n/a	1.800	1.950	0.0057	0.4028	n/a	n/a	n/a
A3	0403061-2	3/16/04 11:14	100.00	0.0	0.110	0.128	0.001	0.2375	n/a	n/a	n/a	2.000	2.080	0.0202	0.4043	n/a	n/a	n/a
A4	0403061-3	3/16/04 11:14	100.00	0.0	0.130	0.118	0.002	0.2444	n/a	n/a	n/a	2.030	1.911	0.0199	0.4113	n/a	n/a	n/a
B1	0403061-4	3/16/04 11:14	100.00	0.0	0.080	0.072	0.002	0.2510	n/a	n/a	n/a	1.990	1.780	0.0135	0.4300	n/a	n/a	n/a
B2	0403061-5	3/16/04 11:14	100.00	0.0	0.050	0.097	0.003	0.2586	n/a	n/a	n/a	1.760	1.692	0.0100	0.4280	n/a	n/a	n/a
B3	0403061-6	3/16/04 11:14	100.00	0.0	0.080	0.098	0.001	0.2448	n/a	n/a	n/a	2.040	1.871	0.0163	0.4170	n/a	n/a	n/a
B4	0403061-7	3/16/04 11:14	100.00	0.0	0.060	0.105	0.002	0.2423	n/a	n/a	n/a	1.640	1.697	0.0114	0.4283	n/a	n/a	n/a

LWB 3/22/04

000105

PAI - Gas Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/23/03 JE

Data file name: ABA8316C
Batch ID: AB040312-2
Count Preset (m): 100
Batch Ended: 3/16/04 13:13

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(x*(mass-x0))		Beta Attenuation Calibration y = b*m^(x*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
x=	0.0000	x=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m *b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.000E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
A1	0403061-4D-	3/16/04 13:13	100.00	0.0	0.110	0.149	0.002	0.2303	n/a	n/a	n/a	2.640	2.340	0.0213	0.4074	n/a	n/a	n/a
A2	0403061-8	3/16/04 13:13	100.00	0.0	0.060	0.094	0.001	0.2415	n/a	n/a	n/a	2.090	1.950	0.0113	0.4028	n/a	n/a	n/a
A3	0403061-3	3/16/04 13:13	100.00	0.0	0.090	0.128	0.001	0.2375	n/a	n/a	n/a	2.100	2.080	0.0168	0.4043	n/a	n/a	n/a
A4	0403061-10	3/16/04 13:13	100.00	0.0	0.100	0.118	0.002	0.2444	n/a	n/a	n/a	2.070	1.911	0.0153	0.4113	n/a	n/a	n/a
B1	0403061-11	3/16/04 13:13	100.00	0.0	0.080	0.072	0.002	0.2510	n/a	n/a	n/a	2.180	1.780	0.0152	0.4300	n/a	n/a	n/a
B2	0403061-12	3/16/04 13:13	100.00	0.0	0.050	0.097	0.003	0.2586	n/a	n/a	n/a	1.650	1.692	0.0100	0.4280	n/a	n/a	n/a
B3	0403061-13	3/16/04 13:13	100.00	0.0	0.050	0.098	0.001	0.2448	n/a	n/a	n/a	1.820	1.871	0.0102	0.4170	n/a	n/a	n/a
B4	0403061-14	3/16/04 13:13	100.00	0.0	0.010	0.105	0.002	0.2423	n/a	n/a	n/a	1.820	1.697	0.0019	0.4283	n/a	n/a	n/a

LCB 3/22/04

000106

PAI - Ga[illegible]low Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/28/03 JE

Data file name: ABA0316D
Batch ID: AB040312-2
Count Preset (m): 100
Batch Ended: 3/16/04 15:41

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(e*(mass-x0))		Beta Attenuation Calibration y = b*m^(e*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
e=	0.0000	e=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m*b^-mass		Beta to Alpha X-talk y = m*mass + b	
a->b xtalk m=	0.0000	b->a xtalk m=	0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
A1	0403061-14D	3/16/04 15:40	100.00	0.0	0.140	0.149	0.002	0.2303	n/a	n/a	n/a	2.270	2.340	0.0271	0.4074	n/a	n/a	n/a
A2	0403061-15	3/16/04 15:40	100.00	0.0	0.070	0.094	0.001	0.2415	n/a	n/a	n/a	1.900	1.950	0.0132	0.4028	n/a	n/a	n/a
A3	0403061-16	3/16/04 15:40	100.00	0.0	0.100	0.128	0.001	0.2375	n/a	n/a	n/a	2.080	2.090	0.0184	0.4043	n/a	n/a	n/a
A4	0403061-17	3/16/04 15:40	100.00	0.0	0.130	0.118	0.002	0.2444	n/a	n/a	n/a	1.950	1.911	0.0199	0.4113	n/a	n/a	n/a
B1	0403061-18	3/16/04 15:41	100.00	0.0	0.090	0.072	0.002	0.2510	n/a	n/a	n/a	1.880	1.790	0.0152	0.4300	n/a	n/a	n/a
B2	0403061-19	3/16/04 15:41	100.00	0.0	0.120	0.097	0.003	0.2588	n/a	n/a	n/a	1.930	1.692	0.0241	0.4280	n/a	n/a	n/a
B3	0403061-20	3/16/04 15:41	100.00	0.0	0.050	0.098	0.001	0.2448	n/a	n/a	n/a	2.130	1.871	0.0102	0.4170	n/a	n/a	n/a
B4	AB040312-2MB	3/16/04 15:41	100.00	0.0	0.060	0.105	0.002	0.2423	n/a	n/a	n/a	2.020	1.697	0.0114	0.4283	n/a	n/a	n/a

LWB 3/22/04

000107

PAI - Gas Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE

Data file name: ABA0316E
Batch ID: AB040312-2
Count Preset (m): 10
Batch Ended: 3/16/04 14:32

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(z*(mass-a))		Beta Attenuation Calibration y = b*m^(z*(mass-a))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
a=	0.0000	a=	0.0000
z=	0.0000	z=	0.0000
Alpha to Beta X-talk y = m*b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.00E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
C1	AB040312-2ALCS	3/16/04 14:32	10.00	0.0	2848.300	0.073	0.278	0.2548	n/a	n/a	n/a	555.500	1.661	363.1878	0.4118	n/a	n/a	n/a
C2	AB040312-2BLCS	3/16/04 14:32	10.00	0.0	8.200	0.075	27.842	0.2482	n/a	n/a	n/a	17401.500	1.728	1.3932	0.4132	n/a	n/a	n/a

53/25/04

000108

PAI - Ga[illegible]w Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE

Data file name: ABA0316H
Batch ID: AB040312-3
Count Preset (m): 100
Batch Ended: 3/16/04 17:33

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(s*(mass-x0))		Beta Attenuation Calibration y = b*m^(s*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
s=	0.0000	s=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m *b^-mass		**Beta to Alpha X-talk** y = m*mass + b	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.00E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
C1	0403061-29	3/16/04 17:33	100.00	0.0	0.230	0.073	0.001	0.2548	n/a	n/a	n/a	1.890	1.661	0.0293	0.4118	n/a	n/a	n/a
C2	0403061-30	3/16/04 17:33	100.00	0.0	0.120	0.075	0.003	0.2482	n/a	n/a	n/a	1.770	1.728	0.0204	0.4132	n/a	n/a	n/a
C3	0403061-31	3/16/04 17:33	100.00	0.0	0.050	0.132	0.001	0.2496	n/a	n/a	n/a	1.780	1.782	0.0095	0.4300	n/a	n/a	n/a
C4	0403061-37.	3/16/04 17:33	100.00	0.0	0.070	0.137	0.001	0.2398	n/a	n/a	n/a	2.370	1.821	0.0137	0.4201	n/a	n/a	n/a
A1	0403061-21.	3/16/04 17:33	100.00	0.0	0.130	0.149	0.002	0.2303	n/a	n/a	n/a	2.400	2.340	0.0251	0.4074	n/a	n/a	n/a
A2	0403061-22.	3/16/04 17:33	100.00	0.0	0.100	0.094	0.001	0.2415	n/a	n/a	n/a	2.320	1.950	0.0189	0.4028	n/a	n/a	n/a
A3	0403061-23	3/16/04 17:33	100.00	0.0	0.100	0.128	0.002	0.2375	n/a	n/a	n/a	2.520	2.080	0.0184	0.4043	n/a	n/a	n/a
A4	0403061-24	3/16/04 17:33	100.00	0.0	0.100	0.118	0.002	0.2444	n/a	n/a	n/a	2.250	1.911	0.0153	0.4113	n/a	n/a	n/a
B1	0403061-25	3/16/04 17:33	100.00	0.0	0.080	0.072	0.002	0.2510	n/a	n/a	n/a	2.130	1.780	0.0135	0.4300	n/a	n/a	n/a
B2	0403061-26	3/16/04 17:33	100.00	0.0	0.030	0.097	0.003	0.2586	n/a	n/a	n/a	1.520	1.692	0.0060	0.4280	n/a	n/a	n/a
B3	0403061-27	3/16/04 17:33	100.00	0.0	0.040	0.098	0.001	0.2448	n/a	n/a	n/a	2.250	1.971	0.0081	0.4170	n/a	n/a	n/a
B4	0403061-28	3/16/04 17:33	100.00	0.0	0.070	0.105	0.002	0.2423	n/a	n/a	n/a	2.050	1.697	0.0133	0.4283	n/a	n/a	n/a

LLB 3/22/04

000109

269564 a
(cont. from pg N/A b)

Paragon Analytics, Inc.

SOP 724 v 8

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100A**

Date: 3/16/04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 600	A 0.1
2 1860	B ↓
	C ↓
	D NP

Bkg.	Cal. File ID
Dr A	BKA0313W
Dr B	↓
Dr C	↓
Dr D	NP

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1	LCB		P		LCB		P		✓	9	LCB		P		LCB		P		✓
2	↓		↓		↓		↓		✓	10	↓		↓		↓		↓		✓
3	↓		↓		↓		↓		✓	11	↓		↓		↓		↓		✓
4	↓		↓		↓		↓		✓	12	↓		↓		↓		↓		✓
5	↓		↓		↓		↓		✓	13	NP				NP				OL
6	↓		↓		↓		↓		✓	14	↓				↓				↓
7	↓		↓		↓		↓		✓	15	↓				↓				↓
8	↓		↓		↓		↓		✓	16	↓				↓				↓

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
1-12	DR Checks	—	—	EFA0316	30	0644	LCB	LCB	3/16/04	N/A
1-12	Bkg Checks	—	—	BKA0316	60	0655	LCB	LCB	3/16/04	↓
1	0403026-1	AB040309-1	α/β	ABA0316A	60	0816	LCB	g	3/16/04	↓
2	↓ -1D	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	↓ -2	↓	↓	↓	↓	↓	↓	↓	↓	↓
4	↓ -3	↓	↓	↓	↓	↓	↓	↓	↓	↓
5	↓ -3MS	↓	↓	↓	↓	↓	↓	↓	↓	↓
7	AB040309-1MB	↓	↓	↓	↓	↓	↓	↓	↓	↓
8	↓ -1LCS	↓	↓	↓	↓	↓	↓	↓	↓	↓
LCB 3/16/04 6	0403026-4	AB040309-1	α/β	ABA0316A	60	0816	LCB	✓	✓	↓
9	0403018-1	SR040309-1	Sr-90	SRA0316	300	0824	LCB	g	3/16/04	↓
10	↓ -1D	↓	↓	↓	↓	↓	↓	✓	✓	↓
11	↓ -2	↓	↓	↓	↓	↓	↓	✓	✓	↓
12	SR040309-1MB	↓	↓	↓	↓	↓	↓	✓	✓	↓
1	SR040309-1LCS	SR040309-1	Sr90	SRA0316A	60	0931	g	g	3/16/04	↓
2	0403061-1	AB040312-2	α/β	ABA0316B	100	0933	g	✓	✓	↓
3	✓ -2	✓	✓	✓	✓	✓	✓	✓	✓	✓

Form 780r6.frm (4/6/2001)

Reviewed by [illegible] Date 3-16-04

Comments:

000110

pg 269564 b.

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Run Log

Date: 3/16/04

Instrument: **LB4100A**

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
4	0403061-3	AB040312-2	α|β	AB040316B	100	0933	S	S	3/16/04	NA
5	-4									
6	-5									
7	-6									
8	-7									
1	0403061-4D	AB040312-2	α|β	AB040316C	100	1132	S	S	3/16/04	
2	-8									
3	-9									
4	-10									
5	-11									
6	-12									
7	-13									
8	-14									
1	0403061-14D	AB040312-2	α|β	AB040316D	100	1400	S	XZ	3.16.04	
2	-15									
3	-16									
4	-17									
5	-18									
6	-19									
7	-20									
8	AB040312-2MB									
9	AB040312-2ALCS	AB040312-2	α|β	AB040316E	60	1422	S	XZ	3.16.04	
10	-2BLCS									
9	0403072-1	AB040311-5	AB	AB040316F	10	1529	XZ	XZ	3.16.04	
10	-2									
11	AB040311-5ALCS									
12	-5BLCS									

Form 780r6.frm (4/6/2001)

Reviewed XZ Date 3-16-04

Comments:

000111

pg 269565 a
(cont. from pg 269564 b)

Paragon Analytics, Inc.

SOP 724 Rev 8

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100A**

Date: 3-16-04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1 600	A Ca 1
2 1800	B
	C
	D ✓

Bkg.	Cal. File ID
Dr A	BKB0313W
Dr B	A
Dr C	3/18/04
Dr D	✓

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1	*				*					9	*				*				
2										10									
3										11									
4										12									
5										13									
6										14									
7										15									
8	✓				✓					16	✓				✓				

*Daily Check Info on Pg 269564a. TZ 3-16-04

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
9	0403072-2D	AB040311-5	AB	ABA0316G	10	1540	TZ	TZ	3-16-04	NA
TZ 3-16-04 10	~~OS~~ AB040311-5MB	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	04 03 061-21	AB040312-3	AB	ABA0316H	100	1553	TZ	LCG	3/17/04	✓
2	-22	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	-23									
4	-24									
5	-25									
6	-26									
7	-27									
8	-28									
9	-29									
10	-30									
11	-31									
12	-37									

LCG 3/18/04

Form 780r6.frm (4/6/2001)

Reviewed by LCG Date 3/17/04

Comments:

000112

PAI - G[illegible] Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE

Data file name: ABA0317
Batch ID: AB040312-3
Count Preset (m): 100
Batch Ended: 3/17/04 9:43

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(x*(mass-x0))		Beta Attenuation Calibration y = b*m^(x*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
x0=	0.0000	x0=	0.0000
x=	0.0000	x=	0.0000
Alpha to Beta X-talk y = m*b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a->b xtalk m=	0.0000	b->a xtalk m=	0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
A1	0403061-27D	3/17/04 9:43	100.00	0.0	0.180	0.149	0.002	0.2303	n/a	n/a	n/a	2.420	2.340	0.0309	0.4074	n/a	n/a	n/a
A2	0403061-32	3/17/04 9:43	100.00	0.0	0.130	0.094	0.001	0.2415	n/a	n/a	n/a	2.110	1.950	0.0245	0.4026	n/a	n/a	n/a
A3	0403061-33	3/17/04 9:43	100.00	0.0	0.140	0.128	0.001	0.2375	n/a	n/a	n/a	2.270	2.080	0.0257	0.4043	n/a	n/a	n/a
A4	0403061-34	3/17/04 9:43	100.00	0.0	0.100	0.118	0.002	0.2444	n/a	n/a	n/a	1.970	1.911	0.0153	0.4113	n/a	n/a	n/a
B1	0403061-35	3/17/04 9:43	100.00	0.0	0.100	0.072	0.002	0.2510	n/a	n/a	n/a	1.920	1.780	0.0188	0.4300	n/a	n/a	n/a
B2	0403061-36	3/17/04 9:43	100.00	0.0	0.100	0.097	0.003	0.2586	n/a	n/a	n/a	1.700	1.692	0.0201	0.4280	n/a	n/a	n/a
B3	0403061-37D	3/17/04 9:43	100.00	0.0	0.070	0.098	0.001	0.2448	n/a	n/a	n/a	1.880	1.871	0.0143	0.4170	n/a	n/a	n/a
B4	0403061-38	3/17/04 9:43	100.00	0.0	0.120	0.105	0.002	0.2423	n/a	n/a	n/a	1.970	1.697	0.0228	0.4283	n/a	n/a	n/a
C2	0403061-39	3/17/04 9:43	100.00	0.0	0.100	0.075	0.003	0.2482	n/a	n/a	n/a	1.820	1.728	0.0170	0.4132	n/a	n/a	n/a
C3	0403061-40	3/17/04 9:43	100.00	0.0	0.130	0.132	0.001	0.2496	n/a	n/a	n/a	1.600	1.782	0.0247	0.4300	n/a	n/a	n/a
C4	AB040312-3MB	3/17/04 9:43	100.00	0.0	0.150	0.137	0.001	0.2398	n/a	n/a	n/a	2.090	1.821	0.0293	0.4201	n/a	n/a	n/a

LCA 3/22/04

000113

PAI - Gas Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/28/93 JE

Data file name: ABA0317A
Batch ID: AB040312-3
Count Preset (m): 10
Batch Ended: 3/17/04 9:17

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(e*(mass-x0))		Beta Attenuation Calibration y = b*m^(e*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
e=	0.0000	e=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m *b^-mass		**Beta to Alpha X-talk** y = m*mass + b	
a->b xtalk m=	0.0000	b->a xtalk m=	0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtik CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtik CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
C1	AB040312-3ALCS	3/17/04 9:17	10.00	0.0	2821.800	0.073	0.246	0.2548	n/a	n/a	n/a	492.900	1.661	360.0617	0.4118	n/a	n/a	n/a

LCB 3/22/04

000114

PAI - G[illegible] Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE

Data file name: ABA0317B
Batch ID: AB040312-3
Count Preset (m): 10
Batch Ended: 3/17/04 10:00

Background logfile: BKGAis
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(e^(mass-x0))		Beta Attenuation Calibration y = b*m^(e^(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.0000	m=	0.0000
e=	0.0000	e=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m *b^-mass		**Beta to Alpha X-talk** y = m*mass + b	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.00E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
C4	AB040312-3BLCS	3/17/04 10:00	10.00	0.0	10.200	0.137	8.714	0.2398	n/a	n/a	n/a	17428.500	1.821	1.9900	0.4201	n/a	n/a	n/a

LCB 3/22/04

000115

PAI - Gas Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE
!!! GUARD WARNING !!!!! See QASS # N/A

Data file name: ABA8317C
Batch ID: AB040312-4
Count Preset (m): 100
Batch Ended: 3/17/04 12:28

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(x*(mass-x0))		Beta Attenuation Calibration y = b*m^(x*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
x=	0.0000	x=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m *b^-mass		**Beta to Alpha X-talk** y = m*mass + b	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.000E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Data & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
B1	0403061-45	3/17/04 11:43	100.00	0.0	0.080	0.072	0.002	0.2510	n/a	n/a	n/a	2.060	1.780	0.0101	0.4300	n/a	n/a	n/a
B2	0403061-46	3/17/04 11:43	100.00	0.0	0.080	0.067	0.003	0.2586	n/a	n/a	n/a	1.970	1.692	0.0161	0.4280	n/a	n/a	n/a
B3	0403061-47	3/17/04 11:43	100.00	0.0	0.080	0.098	0.001	0.2448	n/a	n/a	n/a	1.960	1.871	0.0163	0.4170	n/a	n/a	n/a
C1	0403061-49	3/17/04 11:43	100.00	0.0	0.150	0.073	0.001	0.2548	n/a	n/a	n/a	2.000	1.681	0.0191	0.4118	n/a	n/a	n/a
B4	0403061-48	3/17/04 11:43	100.00	0.0	0.110	0.105	0.002	0.2423	n/a	n/a	n/a	1.750	1.697	0.0209	0.4283	n/a	n/a	n/a
C2	0403061-50	3/17/04 11:43	100.00	0.0	0.020	0.075	0.003	0.2482	n/a	n/a	n/a	2.060	1.728	0.0034	0.4132	n/a	n/a	n/a
C3	0403061-51	3/17/04 11:43	100.00	0.0	0.090	0.132	0.001	0.2496	n/a	n/a	n/a	1.750	1.782	0.0171	0.4300	n/a	n/a	n/a
C4	0403061-52	3/17/04 11:43	100.00	0.0	0.180	0.137	0.001	0.2398	n/a	n/a	n/a	1.960	1.821	0.0351	0.4201	n/a	n/a	n/a
A1	0403061-41	3/17/04 12:29	100.00	0.0	0.140	0.148	0.002	0.2303	n/a	n/a	n/a	2.770	2.340	0.0271	0.4074	n/a	n/a	n/a
A2	0403061-42	3/17/04 12:29	100.00	0.0	0.090	0.094	0.001	0.2415	n/a	n/a	n/a	2.130	1.950	0.0170	0.4028	n/a	n/a	n/a
A3	0403061-43	3/17/04 12:29	100.00	0.0	0.150	0.128	0.002	0.2375	n/a	n/a	n/a	3.150	2.080	0.0276	0.4043	n/a	n/a	n/a
A4	0403061-44	3/17/04 12:29	100.00	0.0	0.080	0.118	0.003	0.2444	n/a	n/a	n/a	2.350	1.911	0.0122	0.4113	n/a	n/a	n/a

+ Recounted due to high guard counts in file AB030323G.
7/7 3-23-04

LAB 3/22/04

000116

PAI - Gas Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/29/03 JE

Data file name: ABA0317D
Batch ID: AB040312-4
Count Preset (m): 100
Batch Ended: 3/17/04 14:27

Background logfile: BKGAm
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(s*(mass-x0))		Beta Attenuation Calibration y = b*m^(s*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
s=	0.0000	s=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m*b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a->b xtalk m=	0.0000	b->a xtalk m=	0.00E+00
a->b xtalk b=	0.0000	b->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Activity Bkg. CPM	Alpha Activity b>a xtlk CPM	Alpha Activity Base Eff	Alpha Activity Base Cor.Fact.	Alpha Activity Progeny Eff	Alpha Activity Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Activity Bkg. CPM	Beta Activity a>b xtlk CPM	Beta Activity Base Eff	Beta Activity Base Cor.Fact.	Beta Activity Progeny Eff	Beta Activity Progeny Cor.Fact.
A1	0403081-52D	3/17/04 14:27	100.00	0.0	0.150	0.149	0.002	0.2303	n/a	n/a	n/a	2.510	2.340	0.0290	0.4074	n/a	n/a	n/a
A2	0403081-41D	3/17/04 14:27	100.00	0.0	0.080	0.094	0.001	0.2415	n/a	n/a	n/a	1.900	1.950	0.0151	0.4028	n/a	n/a	n/a
A3	0403081-53	3/17/04 14:27	100.00	0.0	0.060	0.128	0.001	0.2375	n/a	n/a	n/a	2.340	2.080	0.0110	0.4043	n/a	n/a	n/a
A4	AB040312-4MB	3/17/04 14:27	100.00	0.0	0.160	0.118	0.002	0.2444	n/a	n/a	n/a	2.150	1.911	0.0244	0.4113	n/a	n/a	n/a

LCB 3/22/04

000117

PAI - Gas Flow Proportional Sample Analysis LB4100-A

Unit Type: LB4100-A/W
Counting Unit ID: Orange
High Voltage Mode: Simultaneous
Application Revision: C
Application Version: PAI
Rev.12/28/03 JE

Data file name: ABA0317E
Batch ID: AB040312-4
Count Preset (m): 10
Batch Ended: 3/17/04 12:59

Background logfile: BKGAB
Date of Bkg. Cal: 3/14/04
Alpha efficiency logfile: AmWipe-03/04
Alpha attenuation calibration: n/a
Beta efficiency logfile: Sr90Wipe-03/04
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration y = b*m^(a*(mass-x0))		Beta Attenuation Calibration y = b*m^(a*(mass-x0))	
Alpha b=	0.00000	Beta b=	0.0000
m=	0.00000	m=	0.0000
a=	0.0000	a=	0.0000
x0=	0.0000	x0=	0.0000
Alpha to Beta X-talk y = m*b^-mass		**Beta to Alpha X-talk y = m*mass + b**	
a ->b xtalk m=	0.0000	b ->a xtalk m=	0.00E+00
a ->b xtalk b=	0.0000	b ->a xtalk b=	0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity Gross CPM	Alpha Bkg. CPM	Alpha b>a xtlk CPM	Alpha Base Eff	Alpha Base Cor.Fact.	Alpha Progeny Eff	Alpha Progeny Cor.Fact.	Beta Activity Gross CPM	Beta Bkg. CPM	Beta a>b xtlk CPM	Beta Base Eff	Beta Base Cor.Fact.	Beta Progeny Eff	Beta Progeny Cor.Fact.
B1	AB040312-4ALCS	3/17/04 12:59	10.00	0.0	2738.300	0.072	0.587	0.2510	n/a	n/a	n/a	556.700	1.780	481.1297	0.4300	n/a	n/a	n/a
B2	AB040312-4BLCS	3/17/04 12:59	10.00	0.0	28.900	0.097	29.037	0.2588	n/a	n/a	n/a	17080.700	1.692	5.4042	0.4280	n/a	n/a	n/a

LWB 3/22/04

000118

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(cont. from pg N/A b)

Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: **LB4100A**

SOP 724 8

Date: 3/17/04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1600	A 0.1
21650	B ↓
	C ↓
	D NP

Bkg.	Cal. File ID
Dr A	BKA0313W
Dr B	↓
Dr C	↓
Dr D	NP

Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On line	Det	DR 1	DR 2	DR Stat	cmnt	Bkg 1	Bkg 2	Bkg Stat	cmnt	On-line
1	LCB		P		LCB		P		✓	9	LCB		P		LCB	G	R	P	✓
2	↓		↓		↓		↓		✓	10	↓		↓		↓		P		✓
3	↓		↓		↓		↓		✓	11	↓		↓		↓		L		✓
4	↓		↓		↓		↓		✓	12	↓		↓		↓		L		✓
5	↓		↓		↓		↓		✓	13	NP				NP				α
6	↓		↓		↓		↓		✓	14	↓				↓				↓
7	↓		↓		↓		↓		✓	15	↓				↓				↓
8	↓		↓		↓		↓		✓	16	↓				↓				↓

P = passes; R = Recount, H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-12	DR Checks	—	—	EFA0317	30	0630	LCB	LCB	3/17/04	NA
1-12	Bkg Checks	—	—	BKA0317	60	0650	LCB	G	3/17/04	↓
9	BKG recount	NA	NA	BKA0317A	60	0755	G	G/7	3-17-04	↓
1	0403061-27D	AB040312-3	α/B	ABA0317	100	0802	↓	7/2	3-17-04	↓
2	-32	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	-33	↓	↓	↓	↓	↓	↓	↓	↓	↓
4	-34	↓	↓	↓	↓	↓	↓	↓	↓	↓
5	-35	↓	↓	↓	↓	↓	↓	↓	↓	↓
6	-36	↓	↓	↓	↓	↓	↓	↓	↓	↓
7	-37D	↓	↓	↓	↓	↓	↓	↓	↓	↓
8	-38	↓	↓	↓	↓	↓	↓	↓	↓	↓
10	-39	↓	↓	↓	↓	↓	↓	↓	↓	↓
11	-40	↓	↓	↓	↓	↓	↓	↓	↓	↓
12	AB040312-3MB	↓	↓	↓	↓	↓	↓	↓	↓	↓
9	AB040317-3ALCS	↓	↓	ABA0317A	10	908	7/2	↓	↓	↓
12	-3BLCS	↓	↓	ABA0317B	10	949	7/2	↓	↓	↓
1	0403061-41	AB040312-4	AB	ABA0317C	100	1002	7/2	G	3/17/04	↓

Form 780r6.frm (4/6/2001)

Reviewed by G Date 3/19/04

Comments:

0001119

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Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Run Log

Date: 3/17/04

Instrument: **LB4100A**

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp .Init.	Outp. Date	Cmnt Below
2	0403061-42	AB040312-4	AB	ABA0317C	100	1002	TZ	S	3/17/04	MA
3	-43									
4	-44									
5	-45									
6	-46									
7	-47									
8	-48									
9	-49									
10	-50									
11	-51									
12	-52									
1	0403061-52D	AB040312-4	AB	ABA0317D	100	1247	S	S	3/17/04	
2	-41D									
3	-53									
4	AB040312-4MB									
5	AB040312-4ALCS			ABA0317E	10	1248	S	S	3/17/04	
6	-4BLCS									
1	0401187-1	SR040302-1	Sr90	SRA0317	180	1435	S	S	3/18/04	
2	-1D									
3	0403018-3	SR040311-2	Sr90	SRA0317A	1000	1433				
4	-3D									
5	SR040311-2MB									
6	-2LCS									
7	0403067-3	TR040312-1	Total Rad.	TRA0317	1000	1434				
8	-4									
9	TR040312-1MB									
									S 3/17/04	

Form 780r6.frm (4/6/2001)

Reviewed S Date 3/17/04

Comments:

000120

PAI - G[illegible]low Proportional Sample Analysis LB4100-B

Unit Type: LB4100 -B
Counting Unit ID: Aqua
High Voltage Mode: Simultaneous
Application Revision: 2
Application Version: Standard
Rev.12/29/03 JE

Data file name: AB80323G
Batch ID: AB040312-4
Count Preset (m): 100 .
Batch Ended: 3/23/04 13:52

Background logfile: BKGABW
Date of Bkg. Cal: 3/20/04
Alpha efficiency logfile: AmWipe-11/03
Alpha attenuation calibration: n/a
Beta efficiency logfile: SrWipe-11/03
Beta attenuation calibration: n/a

Alpha prog. logfile: n/a
Alpha prog. attenuation: n/a
Beta prog. logfile: n/a
Beta prog. attenuation: n/a

Alpha Attenuation Calibration		Beta Att[illegible] [illegible]alibration
y = b*m^(x*(mass-x0))		y = [illegible] (mass-x0))
Alpha b=	0.00000	Beta b= 0.0000
m=	0.0000	m= 0.0000
x=	0.0000	x= 0.0000
x0=	0.0000	x0= 0.0000
Alpha to Beta X-talk		Beta to Alpha X-talk
y = m*b^-mass		y = m*mass + b
a -> b xtalk m=	0.0000	b -> a xtalk m= 0.00E+00
a -> b xtalk b=	0.0000	b -> a xtalk b= 0

Det. ID	Sample ID	Count End Date & Time	Count Dur. (min)	Resid. Mass (mg)	Alpha Activity							Beta Activity						
					Gross CPM	Bkg. CPM	b>a xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.	Gross CPM	Bkg. CPM	a>b xtlk CPM	Base Eff	Base Cor.Fact.	Progeny Eff	Progeny Cor.Fact.
C1	0403061-41	3/23/04 13:52	100.00	0.0	0.060	0.128	0.004	0.2568	n/a	n/a	n/a	1.490	1.626	0.0108	0.4201	n/a	n/a	n/a
C2	0403061-42	3/23/04 13:52	100.00	0.0	0.120	0.089	0.004	0.2553	n/a	n/a	n/a	1.440	1.550	0.0220	0.4194	n/a	n/a	n/a
C3	0403061-43	3/23/04 13:52	100.00	0.0	0.230	0.111	0.007	0.2524	n/a	n/a	n/a	2.090	1.627	0.0435	0.4154	n/a	n/a	n/a
C4	0403061-44	3/23/04 13:52	100.00	0.0	0.100	0.073	0.002	0.2472	n/a	n/a	n/a	1.520	1.509	0.0181	0.4198	n/a	n/a	n/a

S 3/23/04

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pg 273591 a
(cont. from pg N/A b)

Paragon Analytics, Inc.

SOP 724 Rev. 8

Low Background Gas Flow Proportional Counter Log

Instrument: LB4100B

Date: 3/23/04

Instrument Background and Response Checklist

P-10 Supply	P-10 Flow
1600	A 0.1
2450	B
	C
	D

Bkg.	Cal. File ID
Dr A	BKB0319W
Dr B	
Dr C	
Dr D	

Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg. Stat	Cmnt	On-line	Det	DR 1	DR 2	DR Stat	Cmnt	Bkg 1	Bkg 2	Bkg Stat	Cmnt	On-line
1	LCB		P		LCB		P		✓	9	LCB		P		LCB		P		✓
2									✓	10									✓
3									✓	11									✓
4									✓	12									✓
5			LB						OLB	13									✓
6			LB						OLB	14									✓
7			P						✓	15									✓
8									✓	16									✓

P = passes; R = Recount; H = high; L = low; W = weekly; α = Alpha; B = Beta; DR = Daily Response Check; Stat = Status; Det = Detector; Bkg = Background; OL = Offline; NP = Not Processed.

Runlog

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1-16	DR Checks	–	–	EFB0323	30	0845	LCB	LCB	3/23/04	N/A
1-16	Bkg Checks	–	–	BKB0323	60	0857	LCB	LCB	3/23/04	
1	AB040317-1LCSD	AB040317-1	AB	ABB0323	60	1007	TT	TT	3-23-04	
16	0403062-41	AB040312-10	AB	ABB0323A	100	1017	TT			
15	-42									
14	-43									
13	-44									
12	-45									
11	-46									
10	-47									
9	-48									
8	-49									
7	-50									
4	AB040312-04B									
2	-10ALCS			ABB0323B	10	1019	TT	TT	3-23-04	
3	-10BLCS									

Form 780r6.frm (4/6/2001)

Reviewed by TT Date 3-23-04

Comments:

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Paragon Analytics, Inc.

Low Background Gas Flow Proportional Counter Log

Instrument: LB4100B

Date - 3/23/04

Det	SmpID	Batch	Test	File ID	Cnt Dur. (minutes)	Start Time	Anal. Init.	Outp. Init.	Outp. Date	Cmnt Below
1	0403119-1	AB040319-3	AB	ABB0323C	10	1125	TZ	TZ	3-23-04	NA
2	-2									
3	AB040319-3ACS									
3	0403119-1D			ABB0323D	10	1138	TZ			
2	AB040319-3BCS									
1	-3MB									
1	0403062-45D	AB040312-10	AB	ABB0323E	100	1211	TZ	TZ	3-23-04	
2	0403092-6	AB040316-1	AB	ABB0323F	120	1209	TZ			
3	-6D									
4	-6MS									
7	AB040316-1MB									
8	-1LCS									
9	0403061-41	AB040312-4	AB	ABB0323G	100	1212	TZ			
10	-42									
11	-43									
12	-44									
13	0403085-1	AB040312-5	AB	ABB0323H	100	1213	TZ			
14	-2									
15	-3									
16	-7									
1	-4			ABB0323I	100	1417	TZ	*		
2	-5									
3	-6									
4	-7D									
7	-8									
8	-9									
9	-10									
10	-11									
11	-12									
12	-13									TZ 3-23-04

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Reviewed TZ Date 3-23-04

*Counts In Progress TZ 3-23-04

Comments:

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PARAGON ANALYTICS
Radiochemistry Data Package

Section 5

QUALITY ASSURANCE SUMMARY REPORTS

5

No *NON-CONFORMANCE REPORTS* or *QUALITY ASSURANCE SUMMARY SHEETS* are included in this data package.